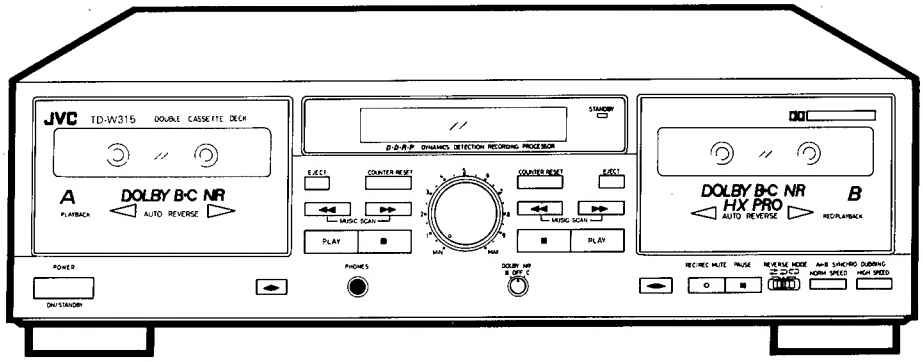
JVC

SERVICE MANUAL

DOUBLE CASSETTE DECK

TD-W315TN C/J
TD-W316BK A/B/E/EN/G/U/UT



COMPU LINK
Component

Area Suffix	
A	Australia
B	U.K.
C	Canada
E	Continental europe
EN	North Europe
G	Germany
J	U.S.A.
U	Other Areas
UT	Taiwan

Contents

No. 4353
Feburuary 1994

■ Safety Precautios

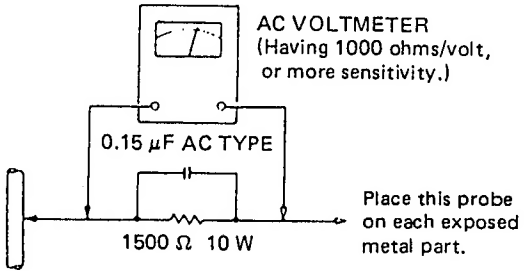
1. The design this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacture's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety — related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of service manual. Electrical components having such features are identified by shading and(⚠)on the schematic diagram and by (⚠) on the parts list in the service manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of service manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps , tubings, barriers and the like to be separated from live parts, high temperature parts, mpving parts and or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after reassembling.
5. Leakage current check (Electrical shock hazard testing)

   After re — assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock. Do not use a line isolation transformer during this check.

   • Plug the AC line cord directly into the AC outlet. using a"Leakage current tester", measure the leakage current from each exposed metal part of the cabinet, particulary any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exposeed 0.5mA AC(r.m.s.)

   • Alternate check method

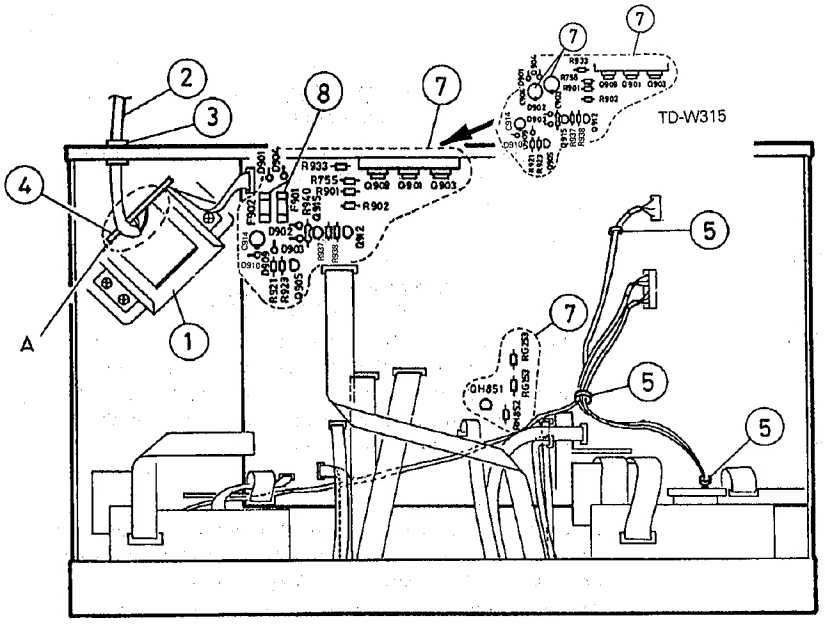
   Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 ohms 10W resistor paralleled by a 0.15 μ F AC type capacitor between an exposed metal part and a known good earth ground. Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC(r.m.s.).This corresponds to 0.5mA AC(r.m.s.).

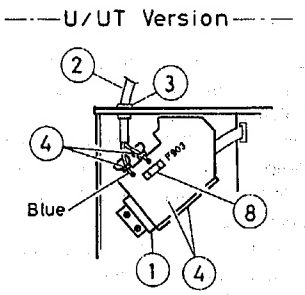


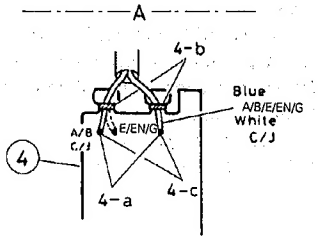
◆ Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintaintaind.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

◆ Important Management Points Regading Safety
(Items Demanding Special Safety Precautions)







1.Securely fix the power transformer while confirming its marking specified in the following.

Suffix	Marking	Discription	Model
J	5216507	UL approved No.	TD-W315
C	VTP52A5-011F		TD-W315
A/B/E/EN/G	VTP52Z5-011F		TD-W316
U/UT	VTP54G5-011F		TD-W316

2.Power cord : Make sure of the following markings and inspect exterior scratch anddamage.

	Power cord	Attachment plug
J	SPT-1	KP-10W or SU-1P
C	SPT-1	KP-10 or SU-1
E/EN/G	◁VDE▷	KP-419C or SE-1
B	BASEC BS6500	KP-610 3A
U/UT	◁VDE▷	KP-8K
A	LTSA-2F	KP-560

3. Install the cord bushing by the specified tool whileconfirming the marking. Bushing : NIFCO 2271

4. Wiring terminal

a)When installing the power cord,wind it around the terminal by the end before soldering.

b)Arrange the wires while binding them nearby the terminal.

c)The end of respective power cords is solderedin the air and the space from others must be3.2 mm or more in the distance.

5. When arranging every wire and cable, avoid the active power parts, mobiles, heat generating parts,shap – edged parts, etc.

7. Since the following parts are hear generation ones, they must no contact with electolytic capacitors, wires, etc.

● Parts in parentheses ( ) are inflammables.Make sure of their lift – up condition for the purpose.

● Parts in box are out of JVC's control.

D901 D902 D903 D904 D909 D910
Q901 Q903 Q905 Q909 Q912 Q915
QH851 R901 R902 R921 R923 R933
R937 R938 R940 R755 RH852 RG153
RG253 C914

Other parts

C903 C904 2200µF/25V C/J version (VENT TYPE)
C914 330µF/25V C/J version (VENT TYPE)

8. All fuses must securely be connected.In A/B/E/EN/G/U/UT version, F901 andF902 must be specified by the rating of 800 mA shown on the surface as well as by themarking of Ⓢ or in U/UT version, F903 must be specified by the rating of 315 mA shown on the surface well as by the marking Ⓢor .

Features

1. **Double auto-reverse mechanism for recording/playback in deck B and playback in deck A**
2. **Full logic mechanism**
3. **Dolby* HX PRO headroom extension**
4. **Dolby B & C noise reduction system**
5. **DDRP (Dynamics Detection Recording Processor) compatibility**
   The DDRP function is possible only when used with a suitable JVC CD player.
6. **2-color FL peak level indicator**
7. **Digital tape counter respectively for deck A and deck B**
8. **Synchro start (normal-/high-speed) dubbing**
9. **Auto tape select mechanism (decks A and B)**
10. **Multi music scan mechanism for either direction**
    "Under License of Staar S.A., Brussels, Belgium"
11. **Continuous playback**
12. **COMPU LINK-3 compatible**

COMPU LINK
Control System

COMPU LINK control system is the convenient system using COMPU LINK-3 / SYNCHRO terminals on the rear panel. (See page 4 and 9.)

D·D·R·P
DYNAMICS DETECTION RECORDING PROCESSOR

This product can be combinated with a DDRP (DYNAMICS DETECTION RECORDING PROCESSOR) system (compact disc player + cassette deck, etc.) to enable setting the optimum recording level automatically. Refer to these instructions for details.

* Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.
* "Dolby", the double-D symbol ⧈ and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

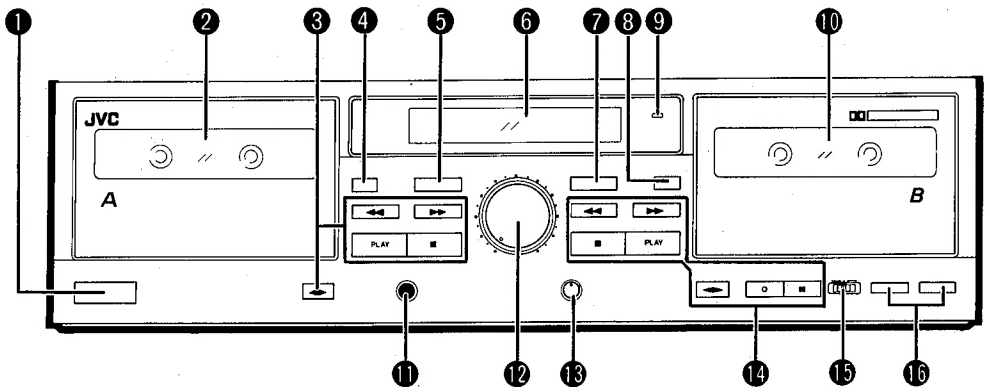
Specifications

Type	: Double cassette deck
Track system	: 4-track, 2-channel
Tape speed	: 4.8 cm/sec (1-7/8 inch/sec) (Normal) 9.5 cm/sec (3-3/4 inch/sec) (High)
Frequency response	: (-20 dB recording) Type IV tape ; 20 - 17,000 Hz 30 - 16,000 Hz (±3dB) Type II tape ; 20 - 16,000 Hz 30 - 15,000 Hz (±3dB) Type I tape ; 20 - 16,000 Hz 30 - 15,000 Hz(±3dB)
S/N ratio	: 58 dB (S = 315 Hz, k3 = 3 %,N = A-weighted, Type IV tape) The S/N is improved by about 15 dB at 500 Hz and by max. 20 dB at 1 kHz ~ 10 kHz with Dolby C NR on and improved by 5 dB at 1 kHz and by 10 dB at above 5 kHz with DOLBY B NR on.
Improvement of MOL	: 4 dB at 10 kHz with Dolby C NR on.
Wow and flutter	: 0.08 %(WRMS), ±0.2%(DIN/IEC)
Channel separation	: 40 dB (1 kHz)
Crosstalk	: 60 dB (1 kHz)
Harmonic distortion	: k3; 0.8% (Type IV tape, 315Hz, 0 VU)
Heads	: Deck A; METAPERM head for playback × 1 Deck B; METAPERM head for recording/playback, 2-gap ferrite head for erasure; Combination head × 1
Motors	: Electric governed DC motor for capstan × 1 DC motor for reel ×1 DC motor for mechanism drive ×1 (For both decks A and B)
Fast forward/ Rewind time	: Approx. 110 sec. with C-60 cassette
Input terminals	
LINE IN (× 1 circuit)	: Input sensitivity; 80 mV (0 VU) Input Impedance; 50 kΩ
Output terminals	
LINE OUT (× 1 circuit)	: Output level; 300 mV (0 VU) Output impedance; 5 kΩ
PHONES × 1	: Output level; 0.3 mW/8 Ω (0 VU) Matching impedance 8 Ω - 1 kΩ
Other terminals	: COMPU LINK-3/SYNCHRO × 2
Power requirement	: AC 240 V, 50/60 Hz (Australia/U.K.) AC 120 V, 60 Hz(U.S.A.)
Power consumption	: With power switch on 17 W With power switch standby 4.3 W
Dimensions (W × H × D)	: 435 × 134 × 328 mm (17-3/16 × 5-5/16 × 12-15/16)
Weight	: 4.9 kg (10.9 lbs.)
Accessories	: Pin plug cord .....2 Remote cable 1

Design and specifications are subject to change without notice.

Instructions (Extracts)

NAMES OF PARTS AND THEIR FUNCTIONS



❶ POWER switch (ON / STANDBY)

❷ Cassette holder (deck A)

❸ Cassette operation buttons (deck A)

◀◀ : Press to wind the tape quickly from right to left.

▶▶ : Press to wind the tape quickly from left to right.

PLAY : Press to play the tape.

■ (stop) : Press to stop the tape.

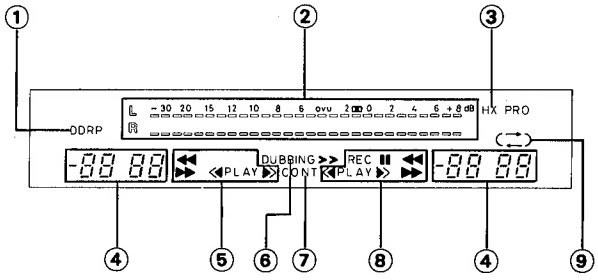
◀▮▶ (direction) : Press to change the direction of tape travel.

❹ EJECT button (deck A)

❺ COUNTER RESET button (deck A)

Press this button to set the digital counter to "0000".
Even if the POWER switch is set to STANDBY, the counter value at that time is stored in memory.

❻ Indicators



① DDRP indicator

② Peak level indicator
These indicators light according to the level of the signal being recorded or the level of the signal recorded on the tape.
Note:
0 dB : IEC (DIN) STANDARD LEVEL (250 nWb/m)
0 VU : Signal level at 160 nWb/m
DD : DOLBY NR STANDARD LEVEL

③ HX PRO indicator

④ Digital counter
The counter reading increases while the tape is running forward and decreases when it is running in reverse. In the Multi Music Scan mode when the ◀◀ (or ▶▶) button is pressed, the number of tunes which will be skipped is displayed.

⑤ Mechanism mode indicators (deck A)

▶▶ : This lights when fast winding the tape left to right.

◀◀ : This lights when fast winding the tape right to left.

PLAY : This lights when in the playback.

◀▮,▮▶ : Indicates the direction of tape travel.

⑥ DUBBING » : "›" lights when in the normal-speed dubbing mode.
"»" lights when in the high-speed dubbing mode.

⑦ CONT : Lights when the unit is continuous play mode.

⑧ Mechanism mode indicators (deck B)

PLAY : Lights when the unit is in the playback and record modes.

◀▮,▮▶ : Indicates the direction of tape travel.

REC : Lights when the unit is in the record and record-pause modes; blinks during record muting.

▮▮ : Pause indicator

▶▶ : This lights when fast winding the tape left to right.

◀◀ : This lights when fast winding the tape right to left.

⑨ ⟲ : Indicates reverse mode.

❼ COUNTER RESET button (deck B)

❽ EJECT button (deck B)

❾ STANDBY indicator
Lights when in the power standby mode.

❿ Cassette holder (deck B)

⓫ PHONES jack
Connect headphones (with an impedance of 8Ω to 1 kΩ).

⓬ INPUT LEVEL control

⓭ DOLBY NR switch
Set to B or C for recording using the Dolby NR system or for playing back a tape that was recorded using the Dolby NR system.
Set to OFF when the Dolby NR system is not used.

⓮ Cassette operation buttons (deck B)

◀◀ : Press to wind the tape quickly from right to left.
▶▶ : Press to wind the tape quickly from left to right.
■ (stop) : Press to stop the tape.
Also press to stop both decks simultaneously during dubbing.
PLAY : Press to start playback/recording.
◀▮▶(direction) : Press to change the direction of tape travel.
○ REC/REC MUTE : Press the PLAY button while pressing this button to start recording, and press to leave an appropriate non-recorded section. (See page 8)
▮▮ PAUSE : Press to stop the tape temporarily during recording and playback. Press the PLAY button to release the pause mode.

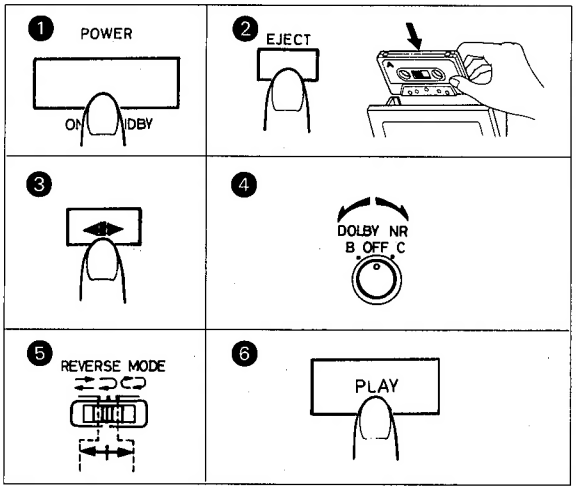
⓯ REVERSE MODE switch

Select the single side or full record/playback mode, or the continuous play mode.
⇄ : For single-side recording or playback.
⇉ : To play or record both sides A and B.
🔁 : To play sides A and B continuously.

⓰ A ► B SYNCHRO DUBBING buttons

Press to dub from deck A to deck B.
• NORM SPEED : Press to perform normal-speed dubbing.
• HIGH SPEED : Press to perform high-speed dubbing.

PLAYBACK



Playback of deck A

Operate in the order of the numbers in the illustration.
❶ Press the POWER switch to set to ON.
❷ Load a prerecorded cassette with side A facing out.
❸ Select the side to be played back.
Side A... Forward direction (PLAY ▶▶)
Side B... Reverse direction (◀◀ PLAY)
❹ Set the DOLBY NR switch to the same position as when the tape was recorded.
❺ Select the REVERSE MODE.
❻ Press the PLAY button of deck A to start playback.
• When the deck contains a tape, the deck is turned on automatically and the tape is played back by only pressing the PLAY button.

Playback of deck B

Perform steps ❷ to ❻ of the above procedure for deck B.

Continuous play

First set the REVERSE MODE switch to 🔁.
Load cassette tapes in both decks and press the PLAY button of the deck to be played first for continuous play of both decks.
• At this time, the CONT indicator lights in the multimode display. When the tape in the deck which plays first reaches the end of side B (in the reverse direction), it automatically switches to the forward direction and enters the standby mode. At the same time, the other deck starts playback. These operations continue between decks A and B.
• While one deck is playing back, the cassette in the other one can be replaced. This is convenient to the long-time playback of background music.

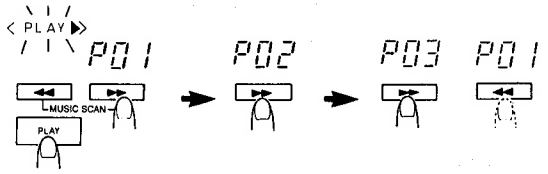
Note:

• Use tapes recorded using the same NR mode in decks A and B.

MULTI MUSIC SCAN

• The multi music scan mechanism of this unit allows you to quickly locate the beginning of a specific tune (up to 99 tunes before or after the current tune).
• The multi music scan mechanism functions by detecting non-recorded sections between tunes (of more than 4~5 sec.).
• The illustration shows the forward direction.

Example of fast forward scan



Procedure

1. Press the PLAY and ▶▶ (or ◀◀) buttons simultaneously.
2. When more than 2 tunes are to be skipped, after procedure 1 press the ▶▶ (or ◀◀) button the number of times you want to skip tunes. The number of tunes to be skipped is displayed in the counter.

• Relation between Multi Music Scan and REVERSE MODE.
⇄ : The Multi music scan mechanism operates on one side of the tape only. If the number set is too high (more than there are tunes remaining on that side), the tape stops when the end of tape is reached.
⇉ : It operates continuously through one cycle of the A and B sides of the tape. If the number set has not been reached, the tape stops at the end of the B side.
🔁 : It operates continuously through the sequence of side A → B → A or B → A → B. If the number set is not reached, the tape stops at the end of the side from which music scanning was started.
When the head rotates to play side A from B or B from A, this rotation is counted as one non-recorded section.
When a recorded tune continues from side A to B, this tune is recorded as two tunes. In such a case, press the ◀◀ (or ▶▶) button one extra time.

Notes:

In the following cases, the mechanism may not operate correctly. This is not a malfunction; use the mechanism according to the type of program.
• Tapes with tunes having long pianissimo passages (very quiet parts) or non-recorded portions during tunes.
• Tapes with short non-recorded sections.
• Tapes with noise or hum between tunes.

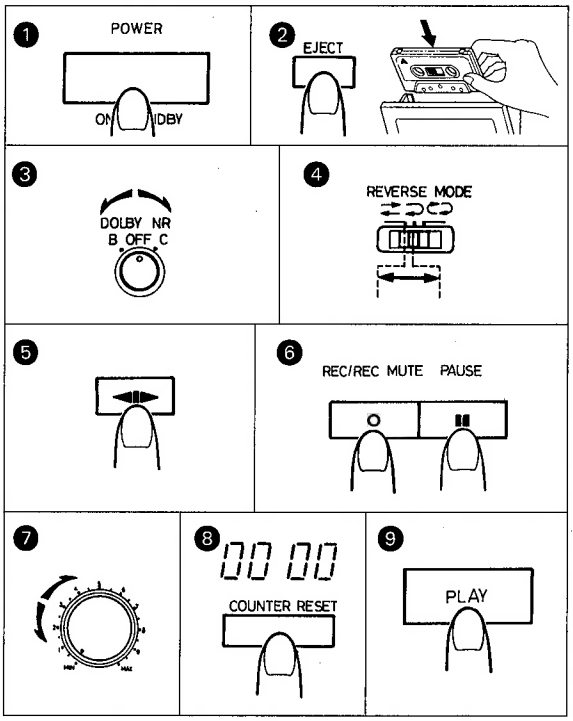
RECORDING

Deck B only

Operate in the order of the numbers in the illustration.

- Make sure the safety tab of the cassette has not been broken off.

It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast or cable programme and in any literary, dramatic, musical, or artistic work embodied therein.



Manual recording

1. Press the POWER switch to set to ON .
2. Load a cassette for recording.
3. Set the DOLBY NR switch as required.
4. Set the REVERSE MODE switch as desired.
5. Select the side to be recorded.
6. Press the ▮▮ PAUSE button and O REC/REC MUTE button (record-pause mode).
   REC and ▮▮ indicators light.
7. Adjust the recording level. (See page 8.)
8. Press to "0000".
9. Press the PLAY button to start recording.

Notes:

- When the safety tabs are removed from a cassette tape, the tape cannot be recorded even if you try. Make sure that both tabs are still in place when performing both sides recording.
- During recording, auto reverse can be activated only from the forward to the reverse direction.

DDRP (Dynamics Detection Recording Processor) recording

DDRP recording is performed with suitable JVC CD players and the recording level adjustment is performed automatically.
Since recording level adjustment is performed automatically for different types of tape (normal, CrO_2 and metal), the adjustment of INPUT LEVEL control is not required.
Read the instruction book of your CD player carefully.

Erasing

When recording on a prerecorded tape, the previous recording is automatically erased and only the new program is recorded on the tape.

To erase a tape without making a new recording...

Follow the section "RECORDING" but in step 7, set the INPUT LEVEL control to MIN.

DOLBY NR and DOLBY HX PRO

Dolby NR System

To reduce the hiss inherent in tape recording, use the Dolby NR System when making recordings. When listening to a tape recorded with the Dolby NR System, set the DOLBY NR switch to B or C according to the system selected in the recording mode.

Note:

The sound quality will change if the positions of the DOLBY NR switch are different in recording and playback.

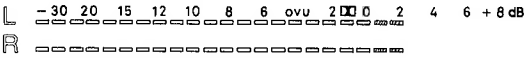
Dolby HX PRO headroom extension

When a source which contains many high-frequency components is recorded, these high-frequency signals have the same function as bias and therefore, the effective bias current changes.
This will result in phenomena such as changes in the level of low-frequency signal and subsequent distortion and reduction of the high-frequency saturation level.
Dolby HX PRO headroom extension system controls the bias current so that the effective bias is constant even when there are fluctuations in the high-frequency components of the input signal.
This greatly improves the high-frequency saturation level while reducing the low-frequency signal level variations and distortion.

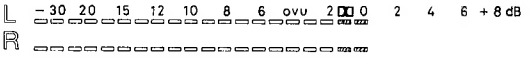
- The dynamic sound recorded with this system sounds the same even when the tape is played back in a deck that does not have Dolby HX PRO.
- This system automatically works when in recording; however, Dolby HX PRO is not a noise reduction system.

RECORDING LEVEL ADJUSTMENT

Adjust the recording level while observing the peak level indicator indication.



Because of metal tape's higher saturation level, it is OK that "+ 2" lights occasionally.
With normal or chrome tape



It is OK that "+ 0" lights occasionally.

- If "+ 4" lights too often because the recording level is too high, the recorded sound may be distorted and seem to be breaking up. If only "0" lights infrequently, the level is too low and the recording may contain tape hiss.

It is best to adjust so that the maximum sound level of the source to be recorded reaches the very limit of the saturation level of the tape to be used.
The best level varies depending on the type of music and type of tape so it is better to make test recording, using FM music, records, etc.

AUTOMATIC RECORD MUTING (DECK B)

This facility is used to eliminate undesired sections and leave an appropriate non-recorded section.

A. To leave non-recorded sections of about 4-5 seconds automatically

1. When the undesired section comes during recording, press the O REC/REC MUTE button and release it.
2. The REC indicator flashes and a non-recorded section is made during record muting operation.
   About 4-5 seconds later, the tape automatically stops, and the unit enters the record-pause mode.
3. Press the PLAY button to start recording again.

B. To leave non-recorded sections of more than 4-5 seconds

1. Keep the O REC/REC MUTE button pressed continuously as long as you want to make a non-recorded section. By releasing the finger from the button after the above operation, the unit enters the record-pause mode.
2. Press the PLAY button to start recording again.

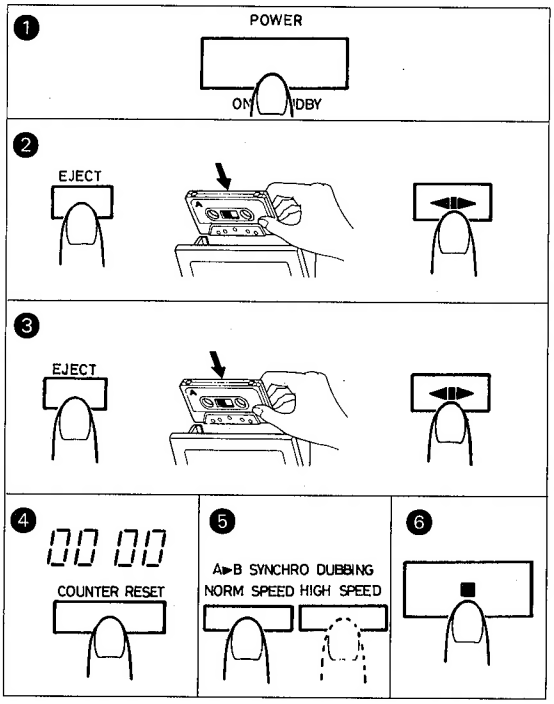
C. To leave non-recorded section of less than 4 seconds

When the undesired section comes during recording....
After the O REC/REC MUTE button is pressed, press the PLAY button before the unit enters the pause mode to start recording again, or press the ▮▮ PAUSE button to enter the record-pause mode.

- The peak level indicator lights even during record muting according to the input level which can be heard from the speakers or headphones so that recording can be resumed at the exact point on the tape.

DUBBING

- **Synchro dubbing**
  Operate in the order of the numbers in the illustration.



❶ Press the POWER switch to set to ON.
❷ Insert a prerecorded tape with side A facing out into deck A, and press the ◀▮▶ (direction) button to select the travel direction.
❸ Insert a blank tape with side A facing out into deck B, and press the ◀▮▶ (direction) button to select the side to be recorded.
❹ Press to "0000".
❺ Press the SYNCHRO DUBBING (NORM or HIGH SPEED) button to start dubbing.
❻ Press the ■ (stop) button of deck B to stop dubbing.

When deck B stops, the dubbing mode is automatically released.

- **Synchro record muting**
  When deck A stops or enters any mode other than the playback mode during dubbing, deck B enters the record mute operation automatically and then enters the record-pause mode.

- **Before pressing the SYNCHRO DUBBING button**
  Confirm that decks B and A are in the stop modes before starting dubbing.

Dubbing and DOLBY NR switch

During dubbing, the same NR mode selected for the playback cassette is applied to the recording cassette, regardless of the position of the NR switch.

Input level

Recording is performed at the same level as the playback tape during dubbing regardless of the position of the INPUT LEVEL control.

Tape editing

1. Press the O REC/REC MUTE button when finished dubbing a tune. Deck B automatically enters the record muting mode and leaves a non-recorded section of about 4-seconds then enters the record-pause mode.
2. Press the ■ (stop) button of deck A and search for the next tune you want by using the ▶▶, ◀◀ or PLAY button. Then stop the cassette just before the beginning of the tune.
3. Press the same SYNCHRO DUBBING button pressed before the pause again, and dubbing will start.

Notes at dubbing

1. Normal-speed dubbing is recommended to obtain good sound quality.
2. Television receivers placed close to the deck may cause interference on the recorded signal when the deck is used in the high-speed dubbing mode. If this happens, either turn off the television receiver or use the normal-speed dubbing mode.

CONNECTIONS

- Do not switch the power on until all the connections are completed.
- Insert the plugs firmly, or poor contact will result, causing noise.
- When the pin-plug cords are employed, always connect the white plug to the left channel terminal. This helps to avoid reversed connections.
- When using the Compu Link Control System version 3, do not connect the power cord to the SWITCHED AC OUTLET of an amplifier or receiver. Otherwise, the automatic power on/off (STANDBY) function cannot be carried out.

1. Connection to a stereo amplifier

Note:

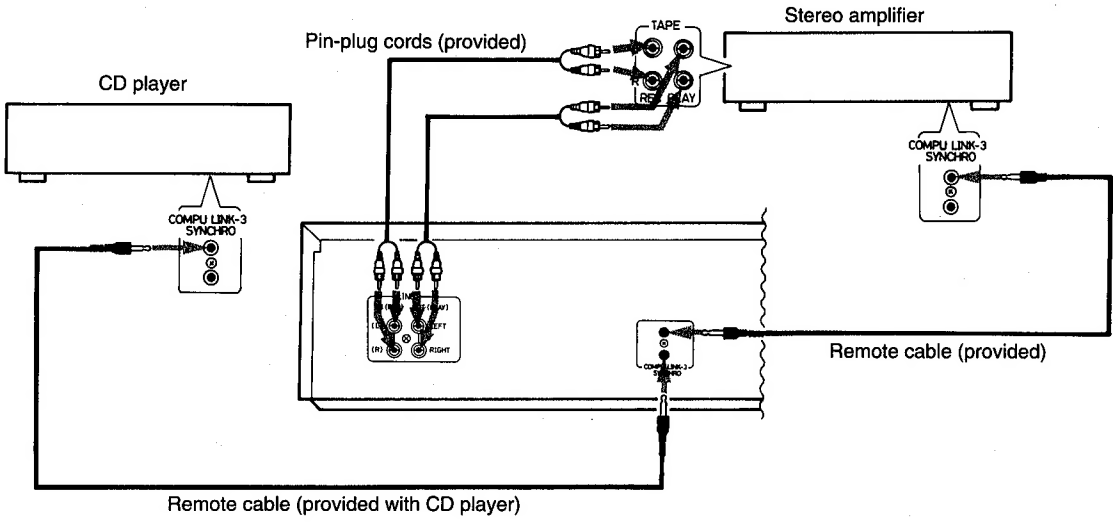
When installing the deck, be sure to install at a distance from your amplifier. If they are stacked, noise (hum) may occur.

2. Remote cable connection for COMPU LINK

- By connecting a remote cable, COMPU LINK functions (automatic power on/off (STANDBY), automatic source selection, synchronized recording and DDRP recording) can be performed.
- When making synchronized recording with a CD player, connect the remote cable to the COMPU LINK-3/SYNCHRO jacks.

Notes:

1. When making synchronized recordings, only a single deck should be connected to the amplifier.
2. If a component is not a JVC COMPU LINK component, bypass it when making the remote cable connections.
3. This deck can be connected with an amplifier and a CD player which have the COMPU LINK-1/SYNCHRO jacks for COMPU LINK performance. (see page 9 for details)



1 Location of Main Parts

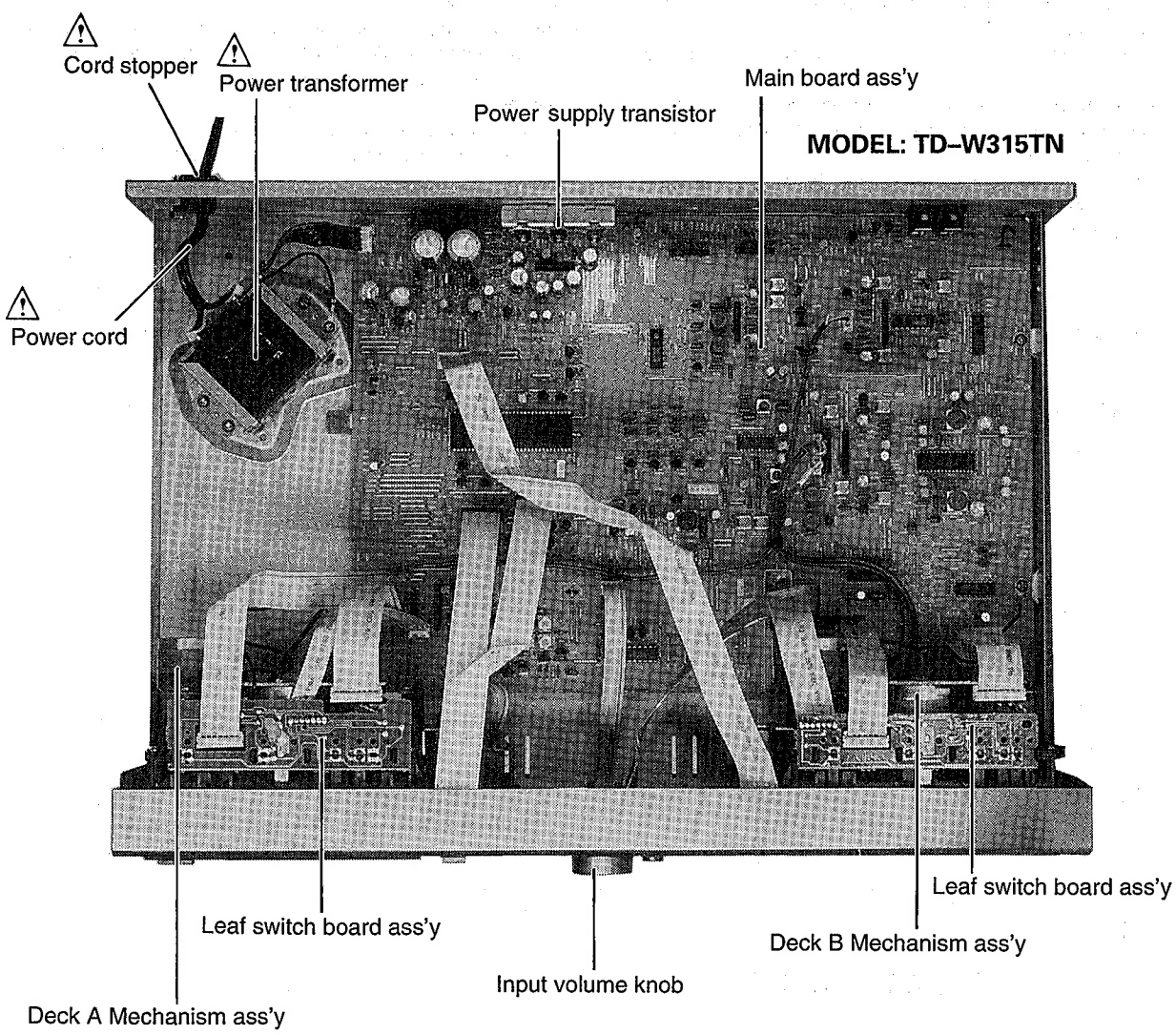


Fig. 1–1

2 Removal of main parts

■ Enclosure Section

◆ Top cover(see Fig 2 – 1)

1. Remove four screws ① retaining the top cover from both side.
2. Remove two screws ② retaining the top cover from the back side.
3. To remove the top cover ,slide in direction of allow and lift away(refer to Fig 2 – 1)

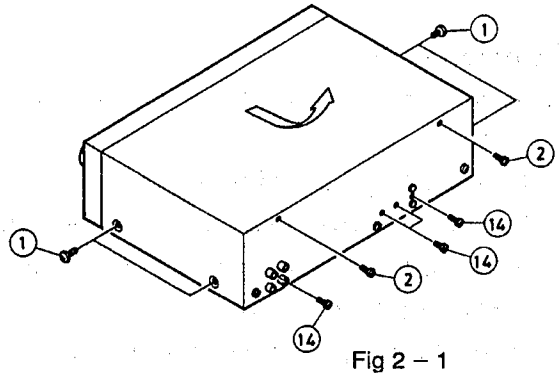


Fig 2 – 1

◆ Front panel assembly

1. Remove the top cover as described in above.
2. Remove three screws ④ retaining the front panel ass'y from bottom side.
3. Release the front panel ass'y from two pawls in the front and bottom sides and draw it to the front side.
4. Disconnect all connectors between the mechanism ass'y, front panel ass'y and the main board ass'y.
5. Remove two screws ⑫ retaining the lug ass'y and main board ass'y.

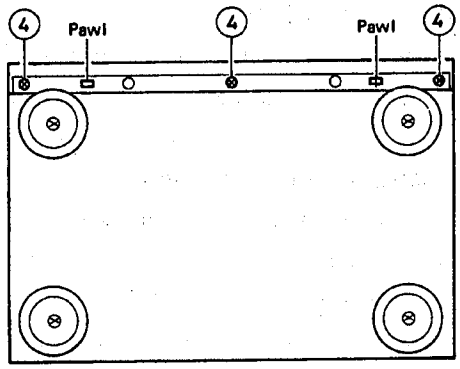


Fig 2 – 2

◆ Mechanism assembly

★ Although the mechanism assembly can be removed without detaching the front panel ass'y, it is recommended to detach the front panel ass'y to do the work with ease.

1. Remove one screw ③ retaining the shield plate to DECK B side on main board.
2. Remove two screws ⑤ or two screws ⑥ from the corners of the mechanism.(see Fig 2 – 5)
3. Open the door and remove the mechanism ass'y.
   (At this time, door lock arm spring and door lock arm are removed together with.)
4. For moving the mechanism ass'y only ,disconnect the following wirings.

a)Mechanism ass'y side(Refer to Fig 2 – 4)
Top side connector of the cam switch board(CN2).
Connector of the motor board(CN1).

b)Main board ass'y side(Refer Fig2 – 3)
Disconnect wire coming from the leaf switch from CN703/CN704 at deckB and CN701 at deckA.
Disconnect wire coming from the head relay board CNA81 at deckA and CNA85 at deckB.

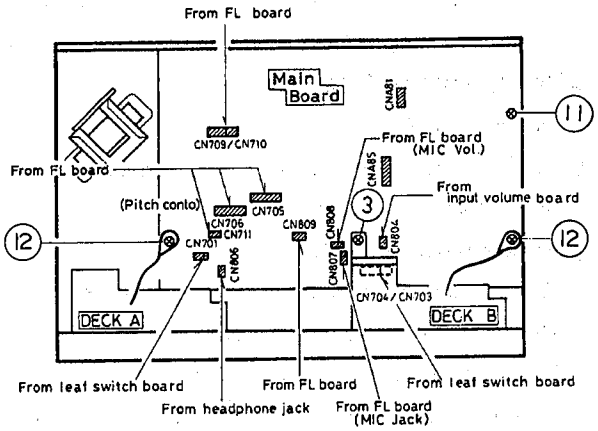
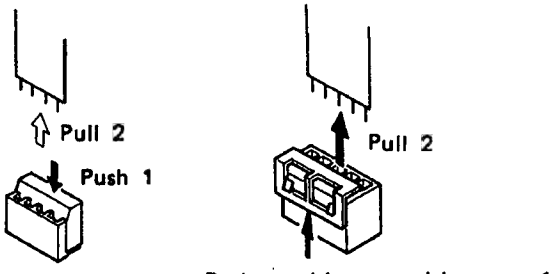


Fig 2 – 3



Push up with a screwdriver, etc. 1

Fig2 – 4

◆Eject arm ass'y

1. Remove two screws ⑦ retaining the eject arm ass'y and pull it out.

◆Mechanism holder and door ass'y

1. Remove four screws ⑧ retaining the mechanism holder.
2. Remove the damper ass'y(for easy reassembling work). Insert an originary(–)screwdriver or the like in to the gap between the damper and the front panel to disengage the pawl , and draw the damper ass'y outwards.(see Fig 2 – 6)
3. Remove the arm shaft of the cassette holder (door ass'y)from the mechanism holder.(The door spring is engaged with the door side by the bent side.)

◆FL board/Volume board ass'y

1. After removing the mechanism holder, proceed to the following steps.
2. Pull out the INPUT volume knob.
3. Remove eight screws ⑨ retaining the p.c.board.
4. Lift the board right upwards to remove it since it is connected to the mechanism control key board with connector pins(CN712/CN713).

◆Headphone jack ass'y

1. Remove the PLAY button.
2. Pull the jack ass'y outwards wile pushing it down toward the bottom side to remove it.

◆Mechanism keyboard ass'y

1. Remove one screw ⑩ retaining the board ass'y.
2. Do the same for the other side.

◆Main board ass'y (see Fig2 – 3,Fig 2 – 1)

1. Remove four screws ⑪, ⑫ and ③ retaining the board.
2. Remove four screws ⑭ retaining the board to the rear panel.

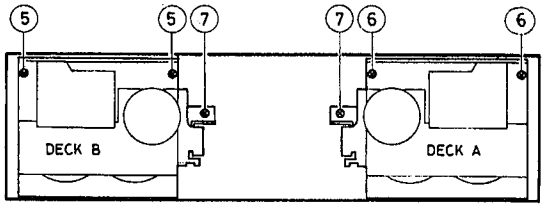


Fig 2 – 5

How to remove damper

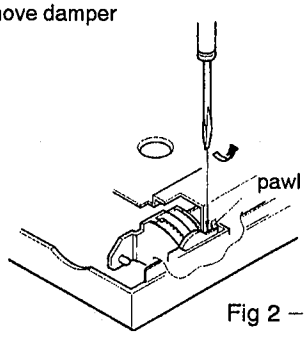


Fig 2 – 6

How to engage the door and eject spring

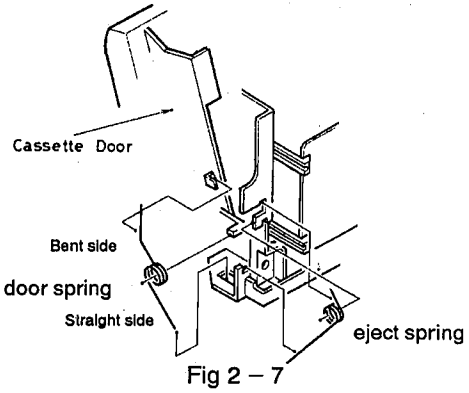


Fig 2 – 7

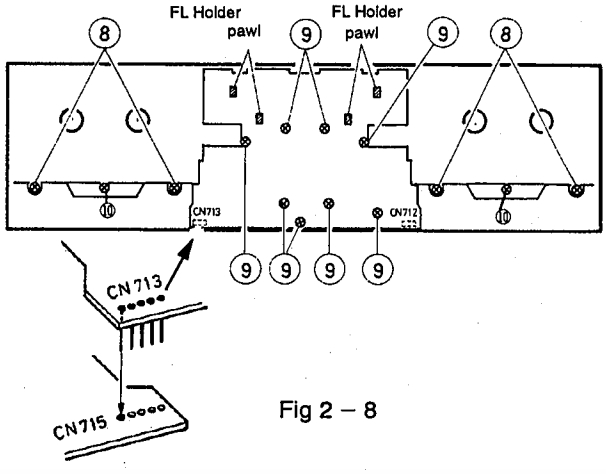


Fig 2 – 8

● Reassembling procedure of the front panel ass'y

1. Attach the mecanism control switch board to the panel with one screw.
2. Install the FL board .
3. Put the door ass'y and the mechanism holder together with on the front panel.
4. Attach the mechanism holder to the front panel ass'y with two screws.
5. Engage the door spring properly.
6. Install the damper .(Push the pawl side last to engage it.)
7. Install the eject arm ass'y.
8. Install the mechanism ass'y
9. Engage the eject spring.

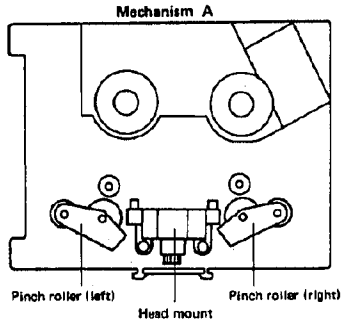


Fig 2 – 9

■ Cassette mechanism section

◆ **Head mount assembly** (Fig2-9,Fig2-10)

1. Release the head wire relay board from two pawls.
2. Remove two screws ① retaining the head mount ass'y.
3. Remove the head gear (1)and head spring.

◆ **Pinch foller assembly** (Fig2-9,Fig2-11)

1. Remove return spring by disengaging the pawlhooking it.
2. Remove the pinch roller spring.
3. For reengaging the spring, refer to the figures (A) and (B). (see Fig 2 – 11)

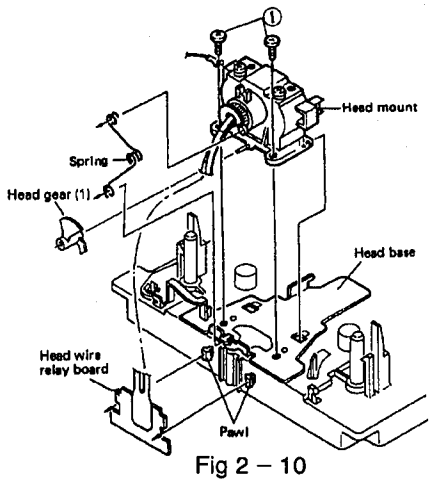


Fig 2 – 10

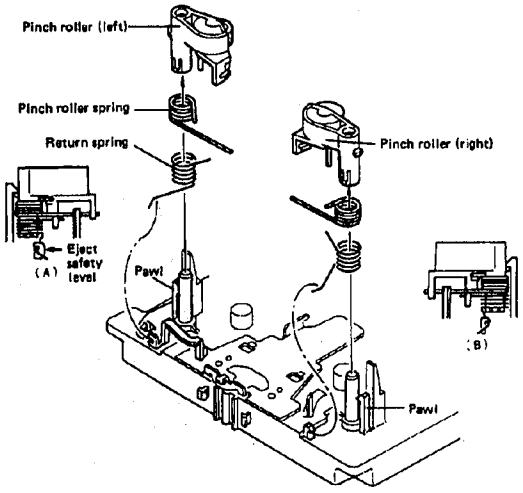


Fig 2 – 11

◆ FM bracket/Capstan motor assembly(Fig.2-12,2-13)

1. Remove soldering to separate the drive motor and the motor ass'y. (Mechanism A or B)
2. Remove one screw ② retaining the FM bracket to-gether.
3. Remove two screws ③ and disengage five pawls, and then the FM bracket and the capstan belt (mechanismA and B) can be removed.
4. Remove two screws ④ retaining the capstan motor from the FM bracket .
5. For reengaging the capstan belt,refer to Fig.2-14.

◆ Actuator motor assembly (Fig.2-15)

1. Release the actuator motor ass'y from three pawls.

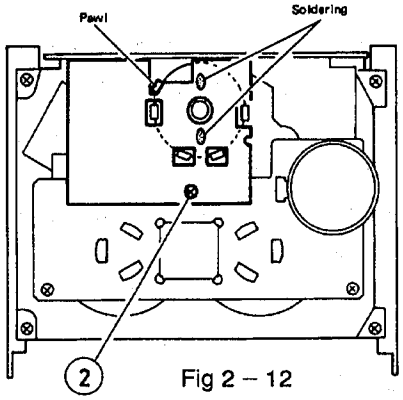


Fig 2 – 12

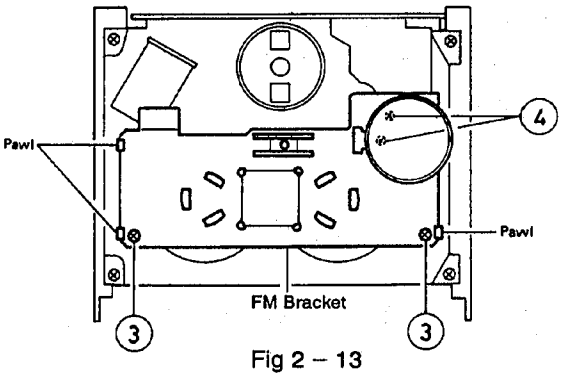


Fig 2 – 13

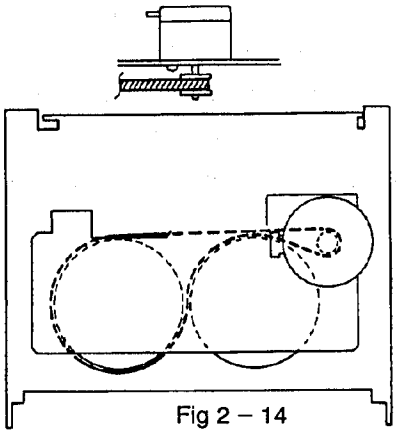


Fig 2 – 14

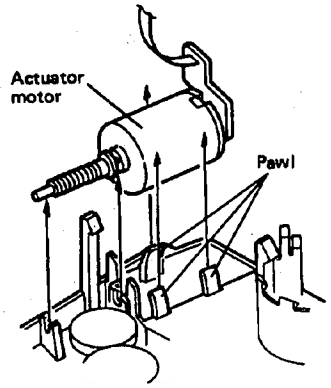


Fig 2 – 15

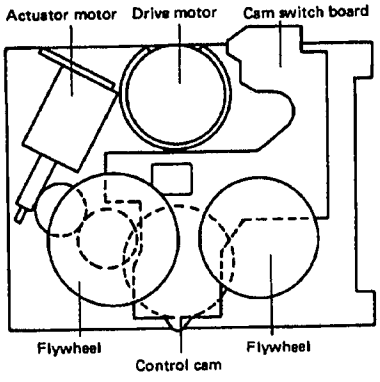


Fig 2 – 16

◆ **Flywheel assembly** (Fig.2-16,Fig2-17)

1. Remove washers from the capstan shaft and draw them out.

◆ **Drive motor** (Fig.2-15,Fig.2-18)

1. Pull out the gear and arm assembly from the drivemotor ahaft.
2. Remove screw ⑤ retaining the drive motor.
3. Disengage four pawls the release the drive motor.

◆ **Cam switch board** (Fig.2-16,Fig.2-19)

1. Release the cam switch board from six pawls.
2. For gearing between the cam switch board and controlcam, see the magnified illustration in a circle.

◆ **Actuator gear (large)** (Fig.2-16,Fig.2-20)

1. Release the actuator gear (large) from three pawls.

◆ **Control cam** (Fig.2-16,Fig.2-20)

1. Release the control cam from two pawls.
2. For assembling the control cam, see the magnified illustration in a circle.

◆ **Actuator gear (small)** (Fig.2-16,Fig.2-20)

1. Release the actuator gear (small) from two pawls.

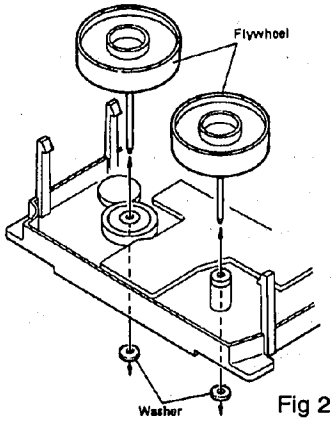


Fig 2 – 17

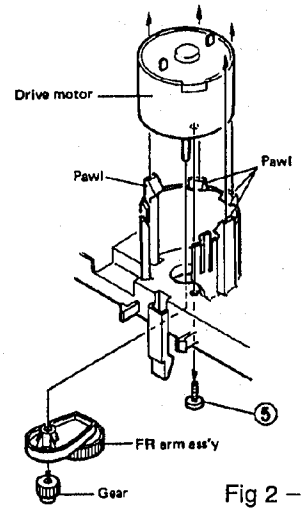


Fig 2 – 18

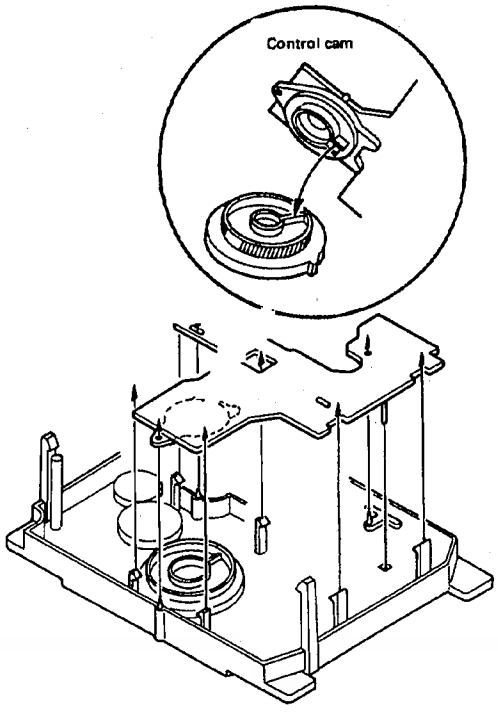


Fig 2 – 19

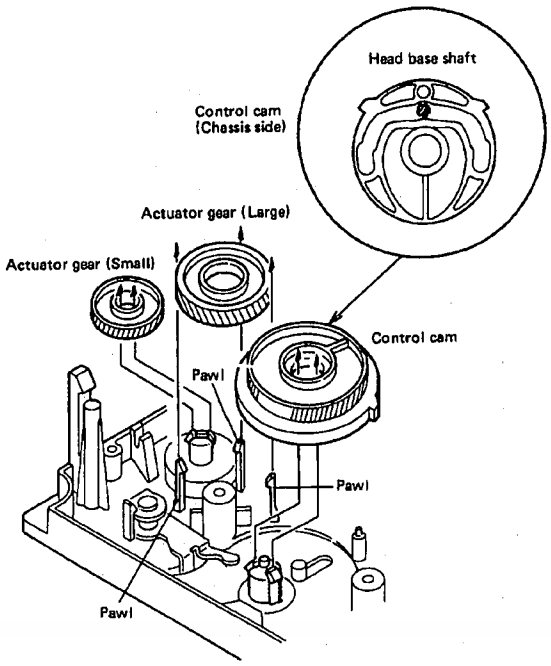


Fig 2 – 20

3 Main Adjustment

◆Measuring instruments required for adjustment

(1) Low – frequency oscillator(oscillation frequency 50Hz – 20kHz, 0dB output with 600 Ω impedance)
(2) Atlenuator (600 Ω impedance)
(3) Electronic voltmeter
(4) Standard tapes
VTT712(tape speed, wow and flutter measurement)
VTT724(reference level)
TMT735, VTT739 (playback frequency)
VTT704 (12.5 kHz) (azimuth)
TMT6447, TMT6448(music scan)
(5) Recording reference tapes
TS – 12(UD1), TS – 10(AC – 513)(SA),
TS – 11(AC – 712)(MA)or equivalent
(6) 600 Ω resistors(for attenuator matching)
(7) Distortion meter(bandpass filter)
(8) Torque gauge(cassette)for CTG – N, TW2111, TW2121 and TW2231 mechanism adjustments
(9) Wow & flutter gauge
(10) Freequency counter gauge
(11) M300 gauge
(12) Band pass filter

◆Power supply voltage

Set the line voltage selector switch to 240V/ 230V/ 220V/ 127V/ 120V/ 110V according to your local voltage.

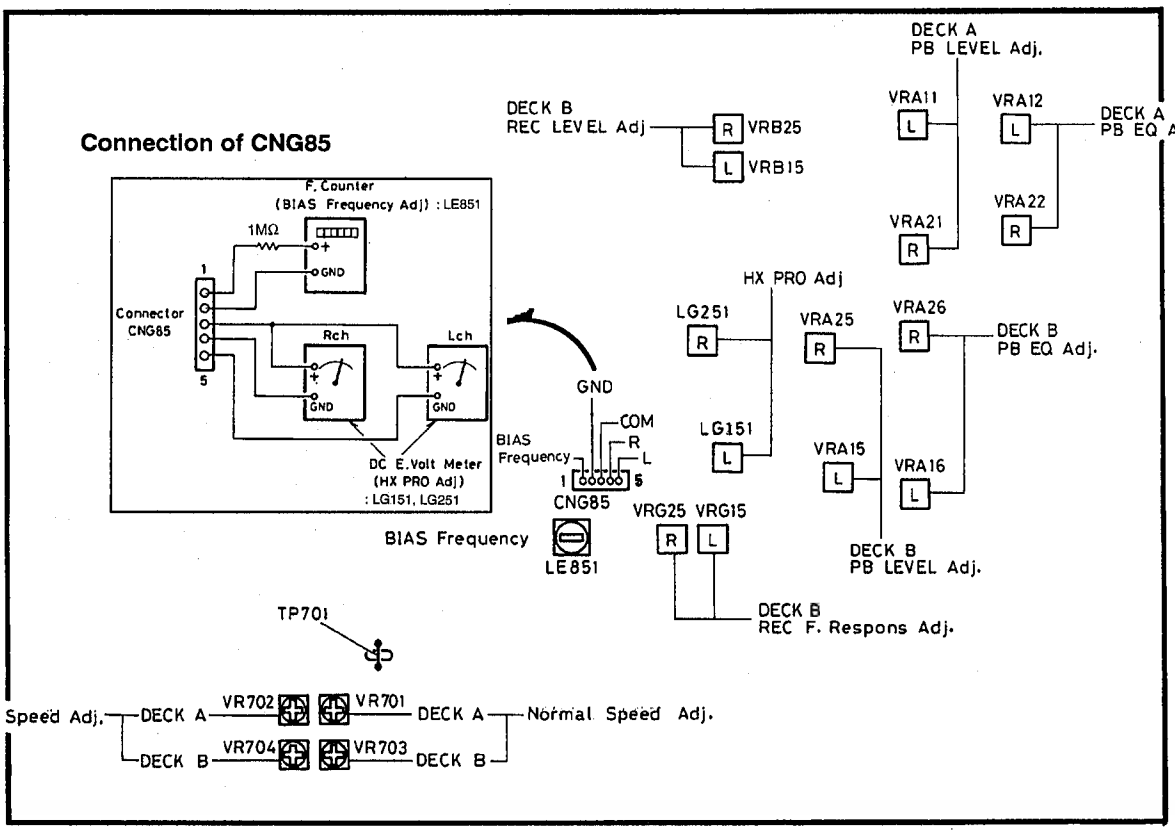
AC240V, 50/60Hz :A/B version
AC230V, 50/60Hz :E/EN/G version
AC120V, 60Hz :C/J version
AC230/127/110V, 50/60Hz:U/UT version

(13) Standard position of the switch and volume knob

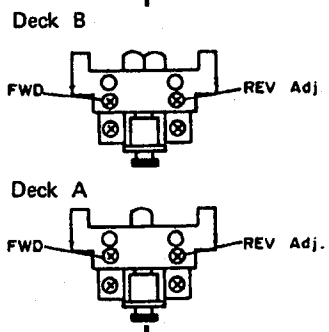
Switches and volume knobs Setting position

INPUT LEVEL	:	MAXIMUM
DOLBY NR	:	OFF
REVERSE MODE	:	⇄

◆Location of Adjustment



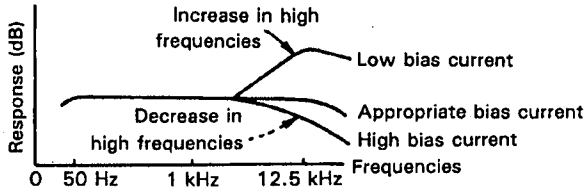
◆ Mechanism Adjstment

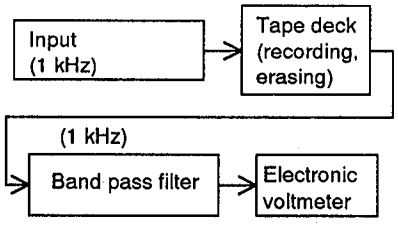
Item	Conditions	Adjustment and Confirmation	Standad value	Adjust point
Adjusting Head azimuth	Test tape : VTT704 (12.5kHz)	1. Connect an electronic voltmeter to the LINE OUT terminals. 2. Play back the VTT704 (12.5kHz) test tape. 3. Adjust the head angle with the screw (FWD and REV) until the reading of the electronic voltmeter becomes maximum for both channels (phase difference must be "0".) 4. Repeat the adjustment in FWD and REV modes as well as for the dechs A and B.	Maximum 	Screws (FWD, REV)
Adjusting motor speed	1.For high speed adjustment, set the deck for play mode and shortcircuit between TP – 701 and GND. 2.Do not do anything while TP701 and GND are shortcircuited.	1. Connect a frequency counter to the LINEOUT terminals. 2. Perform normal speed adjustment first, and then do high speed adjustment. 3.Play back the VTT712 test tape. 4.Adjust for deck A : Ajust VT701 for normal speed at 3000Hz, and VR702 for high speed at 6000Hz Adjust for deck B : Adjust VR703 for normal speed at 3000Hz, and VR704 for high speed at 6000Hz. 5.Difference in FWD and REV frequencies must be less than 45Hz.	Normal speed: Deck A , B : 3000 ±30Hz High speed: Deck A , B : 6000 ± 30Hz	Deck A : Normal;VR701 High ; VR702 Deck B: Normal;VR703 High; VR704
Checking wow and flutter	Test tape: VTT712 (3kHz)	Connect a wow and flutter meter to LINE OUT terminals. Play back the VTT712 test tape. Check to see if the reading of the meter is within 0.18% (WRMS).	0.18% (WRMS)	
Checking play back torque		Employ a torque testing cassette tape (TW2111[FWD] / TW2121[REV] for the checking, or remove the cassette cover and use a torque gauge.	27 – 60 gr – cm	
Checking fast for – ward/rewind torque		Measure the torque in the fast forward mode in the same manner as in the above. Test cassette : TW2231 (FWD), TW2241 (REV)	90 – 200gr – cm	

◆ Electrical Adjustment Procedure

Item	Check and Adjustment			
1 Cheking DOLBY circuit (Rec.mode) (BIAS-CUT)			Input signal (Frequency, level)	Output raise value,deviation value
	Signal input: LINE IN Cal.level: 400Hz, – 8dBs Output terminal TP : ICD85⑮ & ⑯ pin.	DOLBY B (Rec)	1kHz, cal. – 40dB	+5.7 dB ± 2 dB
			5kHz, Cal. – 20dB	+3.5dB ± 1.5 dB
			1kHz, Cal. 0dB	0 dB $\pm^{0.5}_{1.0}$ dB
		DOLBY C (Rec)	1kHz, Cal. – 40	+16.2 dB $\pm^{3}_{2}$ dB
			5kHz, Cal. – 20	+2.9 dB ± 2.5 dB
			1kHz, Cal. 0dB	0 dB ± 1 dB

Item	Conditions	Adjustment and Confirmation	Standard	Adjusting
*2 Play back level adjust-ment	Test tape VTT724: 1kHz	Play back VTT724, then confirm that the level at LINE OUT is – 7.5 dBs ± 0.5 dB. Adjust VRA15 VRA25 and VRA11 VRA21 so that LINE OUT level becomes –7.5 dBs.	LINE OUT –8dB $^{+1.5}_{-0.5}$ dB PHONES Out –24dBs $^{+2.5}_{-1.5}$dB	Deck [B] L : VRA15 R : VRA25 Deck [A] L : VRA11 R :VRA21
*3 Playback frequency response adjustment	Test tape TMT735:1kHz/12.5kHz VTT739 :1kHz/63Hz	Play back TMT735 test tape, and adjust VRA16, VRA26 (deck [B]) and VRA12, VRA22 (deck [A]) so that deviation of 12.5 kHz to that of 1 kHz is 0.5 ± 0.5 dB. Then, play back VTT739 test tape to confirm that deviation of 63 Hz to 1kHz is +2 ± 3 dB.	with 12.5kHz as reference, 0.5 ± 0.5 dB at 1kHz 63Hz(check): +2 ± 3dB	Deck [B] L: VRA16 R: VRA26 Deck [A] L: VRA12 R: VRA22
*4 Bias frequency adjustment	Frequency counter TP :CNG85	Connect a frequency counter to the CNG85 and adjust LE851 so that the counter reads 95 kHz.	95 kHz ± 1 kHz	Deck [B] LE851
*5 Slave oscillation (HX PRO) adjustment	DC.Voltmeter TP:CNG85	This step must be performed after the bias frequency adjustment. Load a metal tape and set the deck to the recording mode. Adjust LG151 and LG251 to minimize respective voltages of CNG85 (PIN3–5) at Lch and (PIN3–4) at Rch.		Deck [B] L : LG151 R : LG251

Item	Conditions	Adjustment and Confirmation	Standard	Adjusting
*6 REC/PB frequency response adjustment	LINE INRUT level : Ref. – 20dB(– 39dBs ± 2dB)	This step must be performed after the slave oscillation adjustment. Record the 1 kHz and 12.5 kHz signals at the level of – 20 dB (20 dB lower than the reference level). Playing back the recorded signals, adjust VRG15 and VRG25 so that the level of the 12.5 kHz signal is 0.5 ± 0.5 dB to the level of the 1 kHz signal. 	12.5 kHz level: 0 ± 0.5 dB higher than the 1kHz level.	Deck B L :VRG15 R :VRG25
*7 Recording level adjustment	NR switch : Off TAPE switch : Normal	1) Apply 1 kHz signal to the LINE IN terminals, record 1 kHz signal at – 20 dBs input for both (L and R) channels on a normal tape. 2)Play back the recorded part, and adjust the recording level con- trols so that LINE OUT terminal level becomes – 8 dBs. Then adjust VRB15 and VRB25 so that LINE OUT terminal level becomes – 8 dBs.	Nornal: $-8\ ^{+1.5}_{-0.5}$ dBs CrO2/Metal: $-8\ ^{+2}_{-1}$ dB	Deck B L : VRB15 R : VRB25
8 Maximum out put check		Supply 1 kHz signel to the LINE IN terminal in the Rec. monitoring mode, and read non-clipped signal level at the LINE IN terminal	LINE OUT: more than 8 dBs PHONES OUT: more than – 16dBs	
9 DDRP check	Light the DDRP indicater Mode: Stop	With the DDRP switch set to ON , supply 1 kHz, – 10.8 dBs input signal in the rec pause mode and check the signal level at the LINE OUT terminal. With the DDRP switch set to OFF , perform the same check as in the above step.	Normal: – 11 dBs ± 2 dB Metal: – 8 dBs ± 2 dB	
	Turn off DDRP indicater		Normal: +1.2 dBs ± 2 dB Metal: +1.2 dBs ± 2 dB	

Item	Conditions	Adjustment and Confirmation	Standard	Adjusting
10 Checking record/ playback distortion		1)Record a 1 kHz, –20 dBs signal to LINE IN terminals. 2)Play back the recorded part, Check the output with a distortion meter to see if the value conforms to the standard value.	Nornal: Less than 2% CrO2/Metal: Less than 3%	
11 Checking signal to noise ration recording playback		1)Record a 1 kHz, –20 dBs signel, Stop the input bu disconnecting from the terminal to perform non-signal recording. 2)Play back the recorded part.Measure the – 8 dBs recording output and the non-signal recording output for comparison using an electronic voltmeter. Check to see if the value conforms to the standard value.	Normal: More than 40 dB CrO_2/Metal: More than 41 dB	
12 Checking erasing coefficient		1)Apply a 1 kHz, +20 dBs signal to the LINE IN terminals. 2)Perform recording with the signal enhaned by 20dB. 3)Erase a part of the recording. 4)Measure the output difference between the erased part and non- erased part to compare with an electronic voltmeter. For the measurement using a metal tape, connect a band pass filter between the deck and the electronic voltmeter. 	More than 55 dB	

4 Wiring Connections

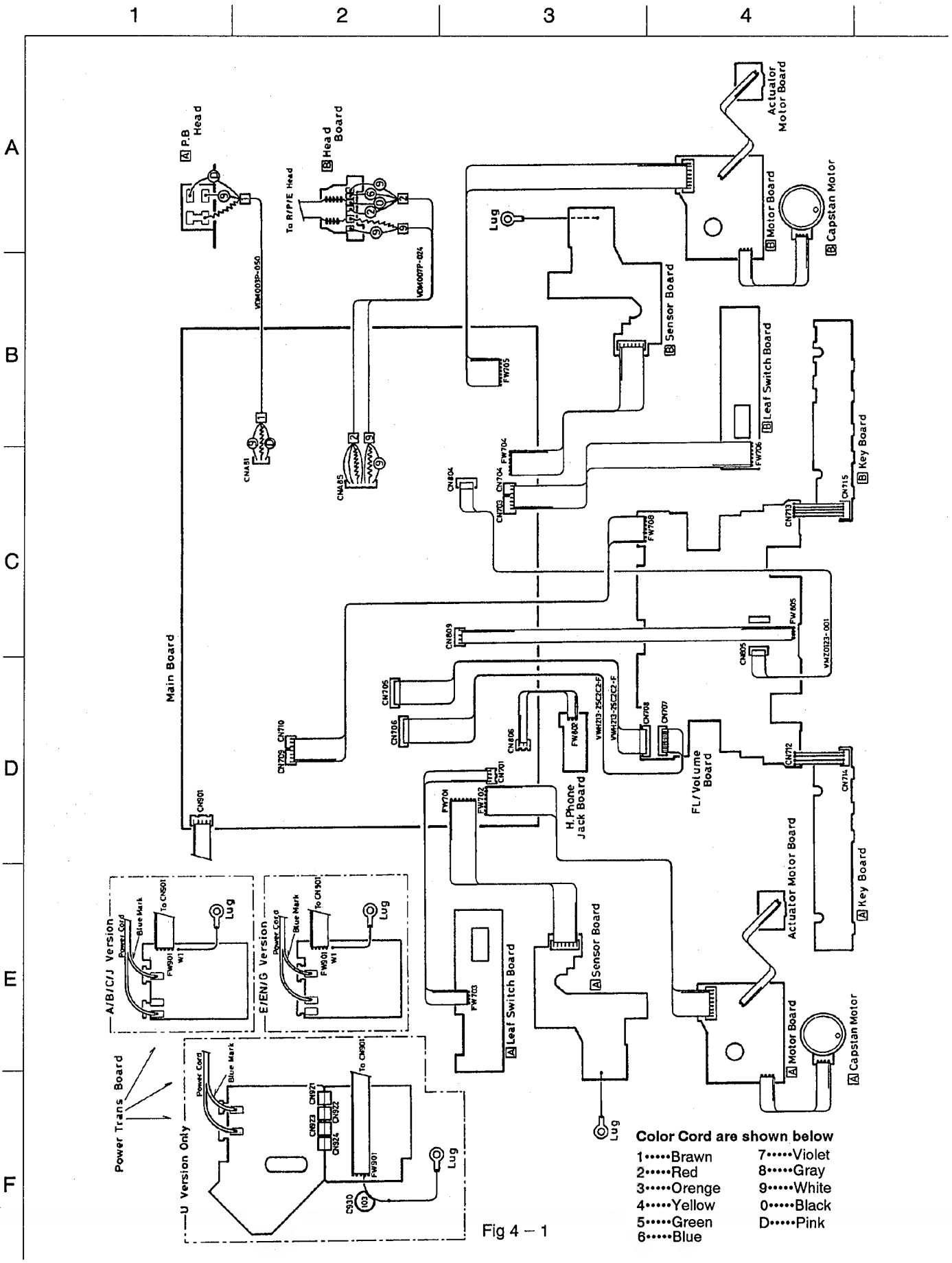


Fig 4 – 1

5 Block Diagram

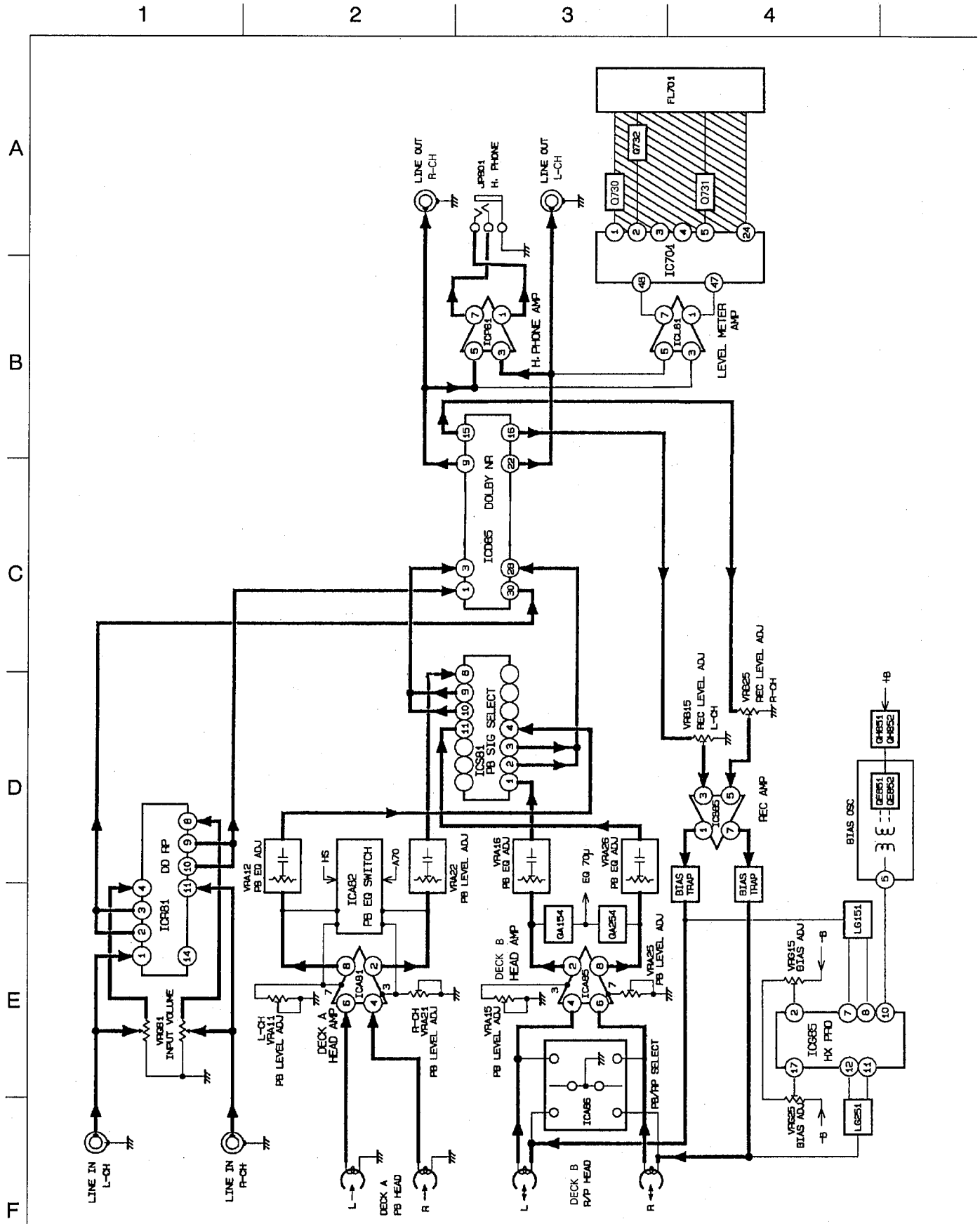
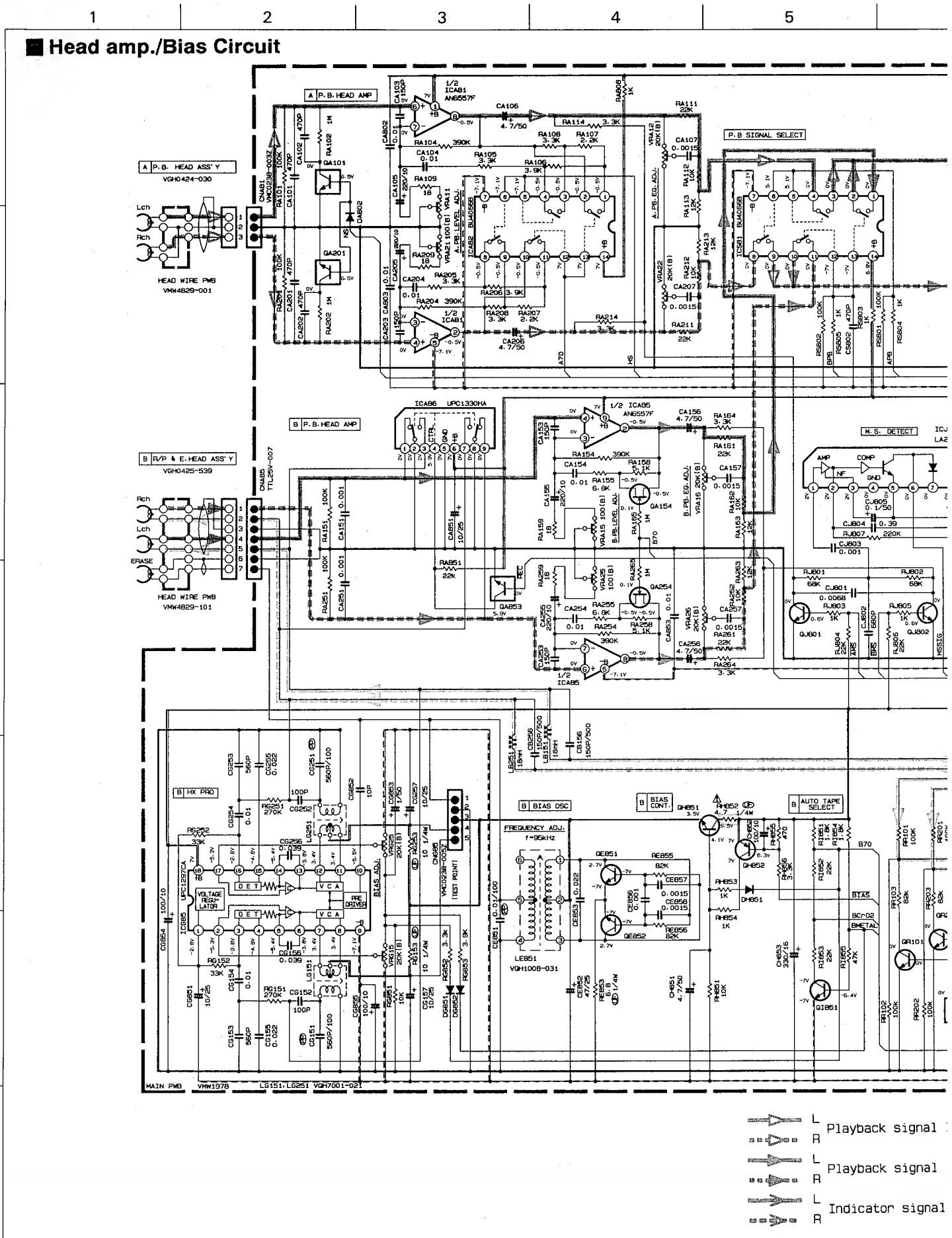


Fig 5 – 1

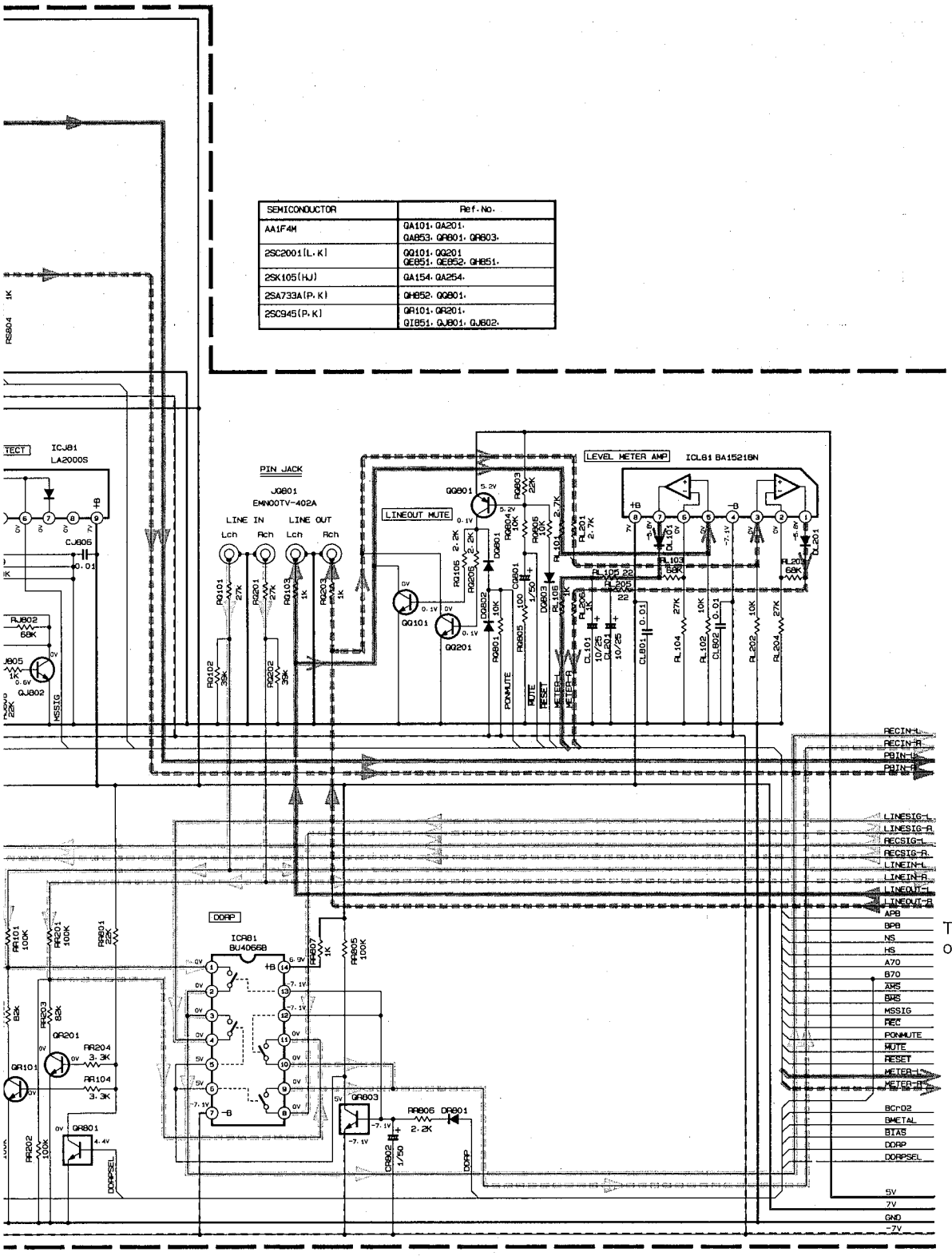
6 Standard Schematic Diagram

Head amp./Bias Circuit



6	7	8	9	10

SEMICONDUCTOR	Ref.No.
AA1F4M	QA101, QA201, QA853, QR801, QR803.
2SC2001(L,K)	QQ101, QQ201 QE851, QE852, QH851.
2SK105(HJ)	QA154, QA254.
2SA733A(P,K)	QH852, QQ801.
2SC945(P,K)	QR101, QR201, QI851, QJ801, QJ802.



To E-1
on page 24

signal line (DECK A)

signal line (DECK B)

signal line

L
R
Recording signal line

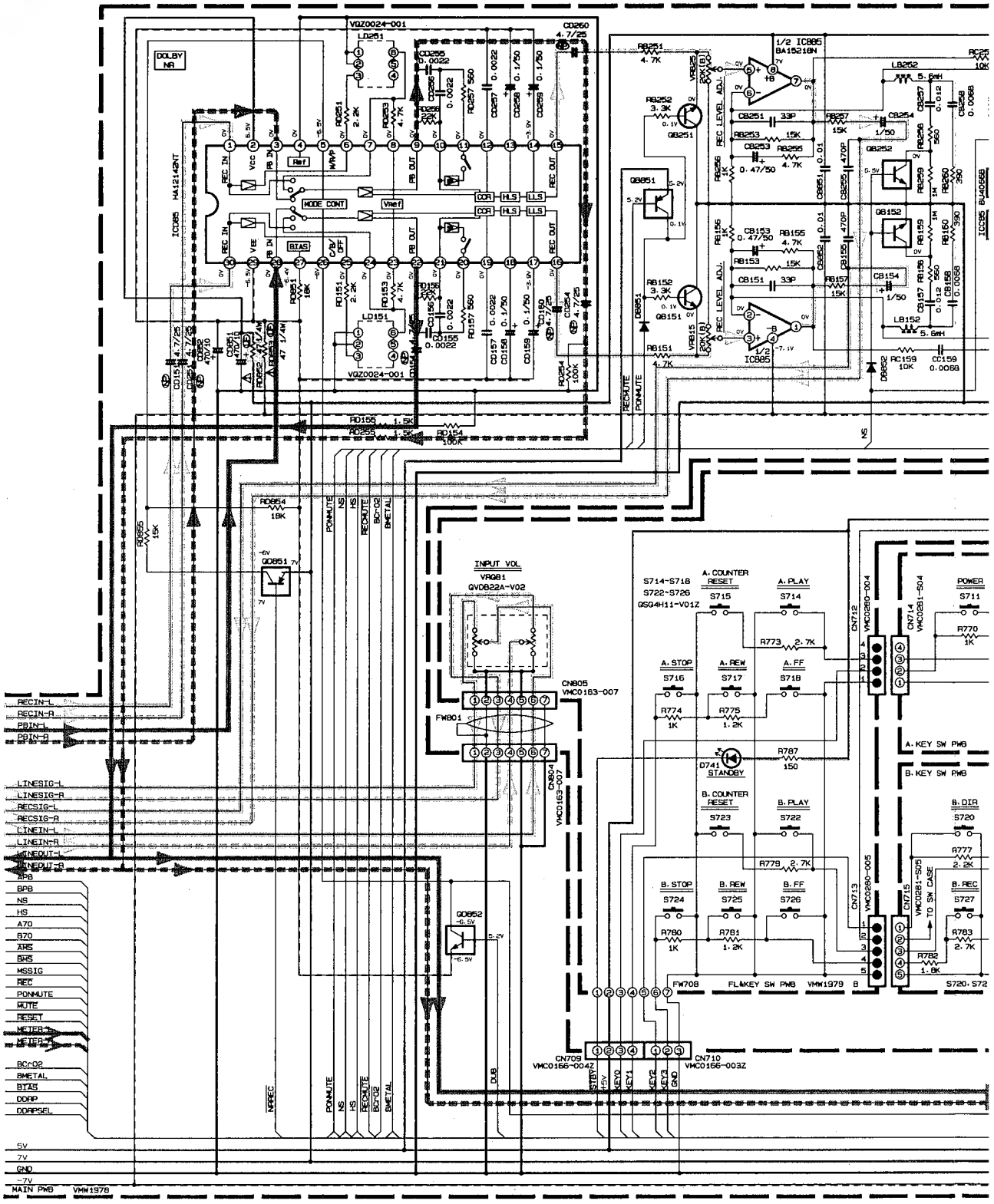
⚠Psrts are safety assurance parts.
When replacing those parts make
sure to use the specified one.

+B LINE

-B LINE

Fig 6 – 1

DOLBY NR /Key•FL Circuit



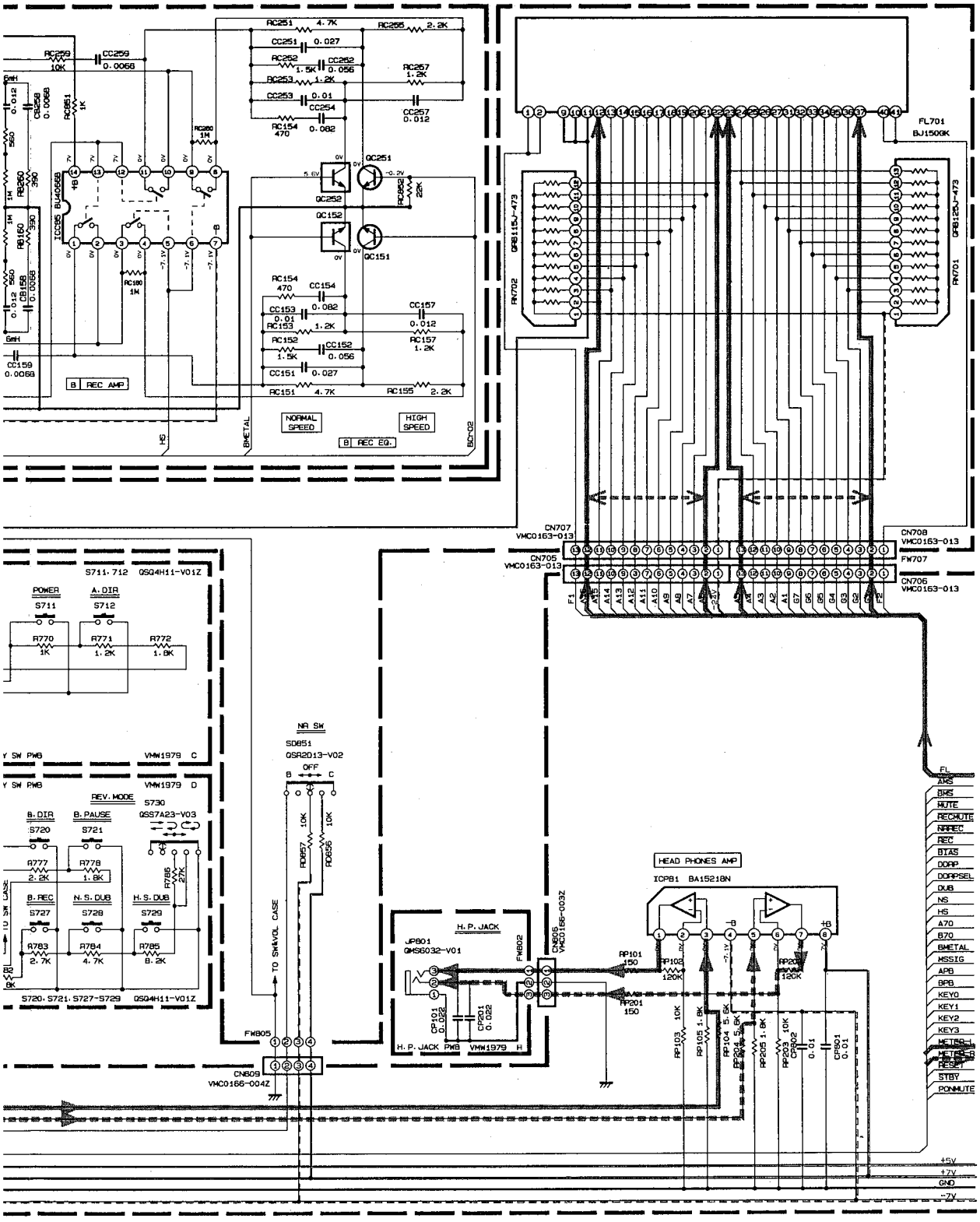
To E-10 on page 23

SEMICONDUCTOR	Ref.No.
2SC2001(L,K)	QB151, QB251,
AN1F4M	QB851, QD851
AA1F4M	QB152, QB252, QC152, QC252, QD852
2SC945(P,K)	QC151, QC251,

L
R
L
R

Fig 6 – 2

6 | 7 | 8 | 9 | 10



To E-1
on page 25

L R Playback signal line

L R Indicator signal line

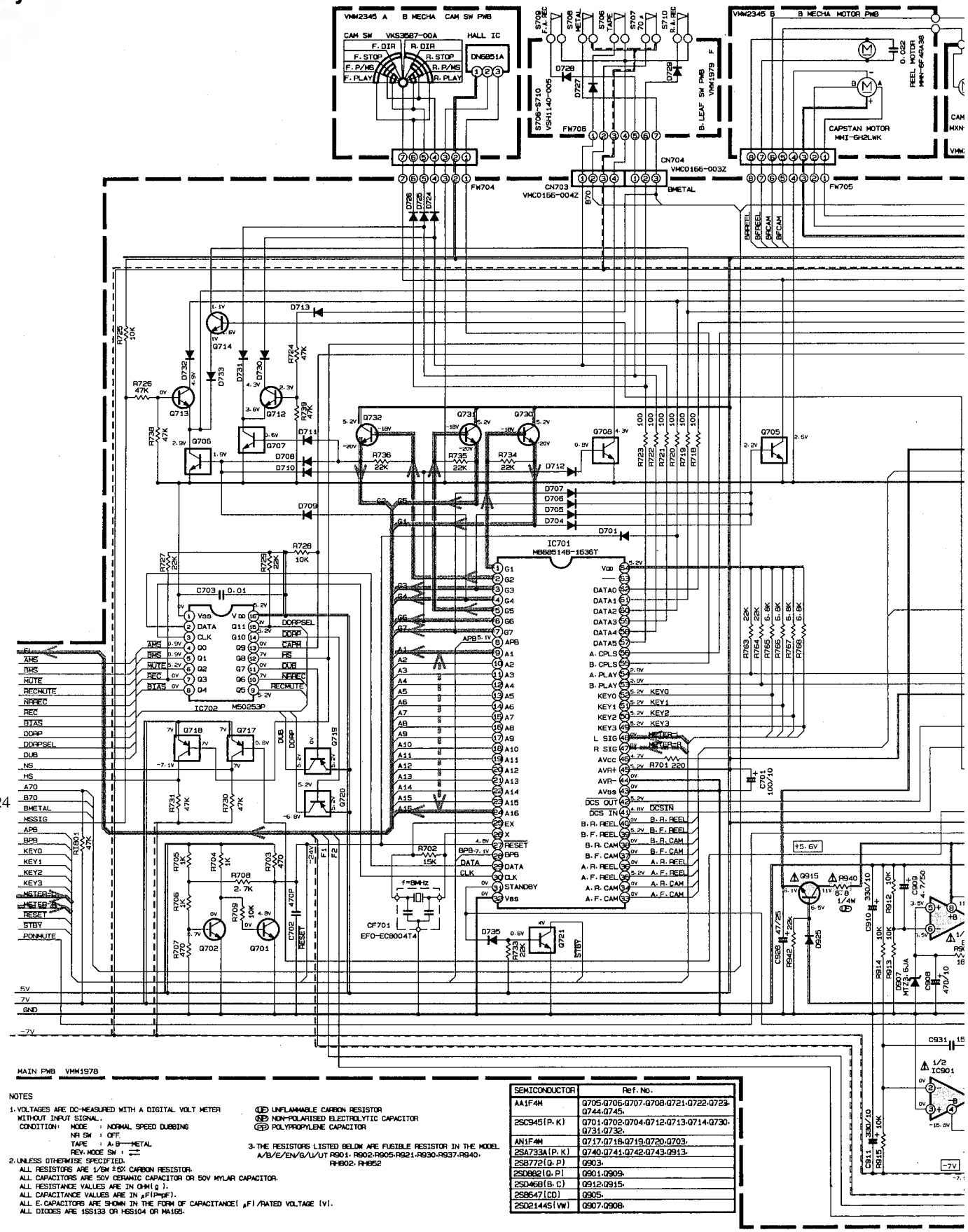
L R Recording signal line

+B LINE

-B LINE

⚠Psrts are safety assurance parts.
When replacing those parts make
sure to use the specified one.

System Control Circuit



To E-10 on page 24

MAIN PWB VMW1978

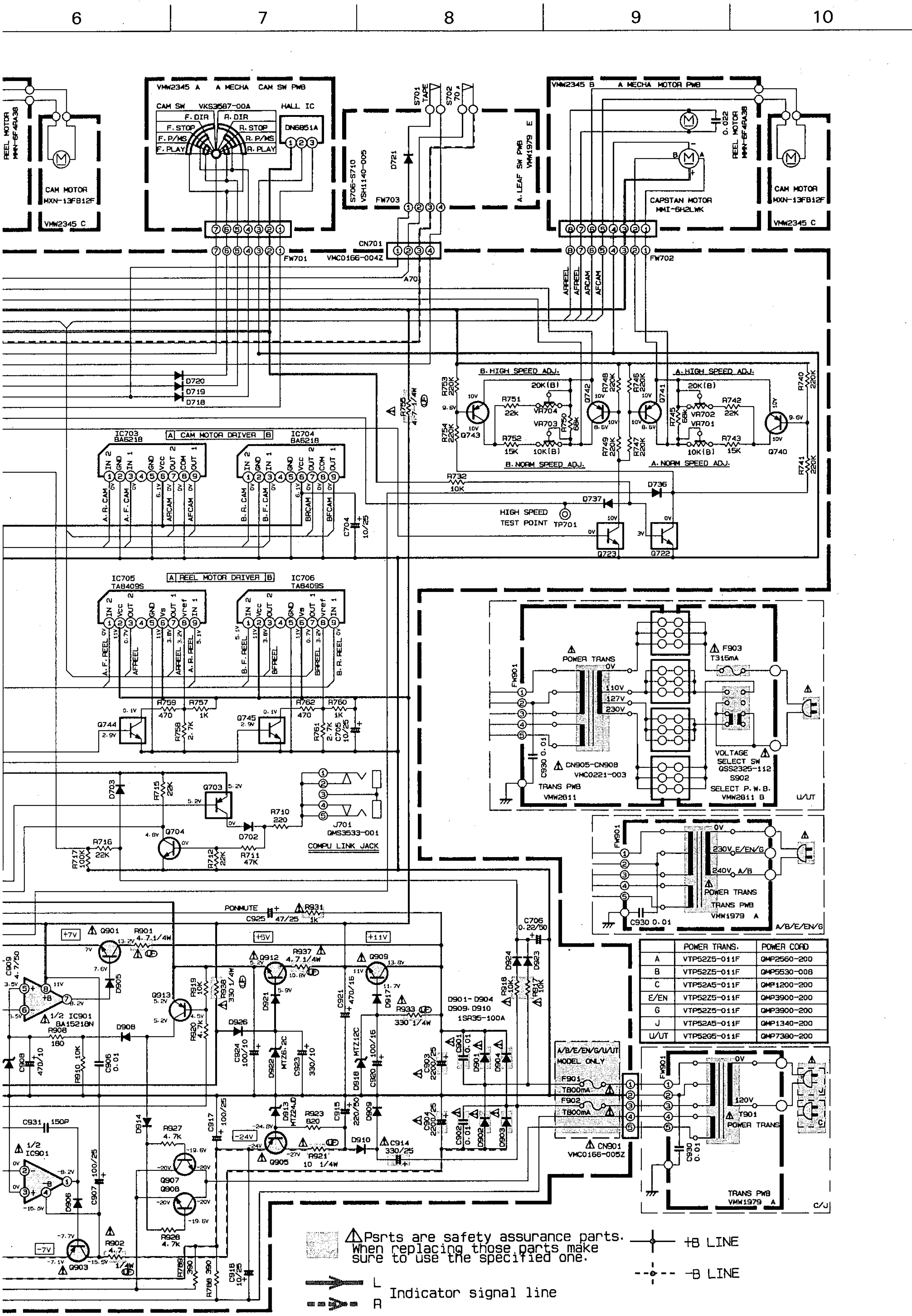
NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
   CONDITION: MODE : NORMAL SPEED DUBBING
   NR SW : OFF
   TAPE : A·B——METAL
   REV. MODE SW : ⇄
2. UNLESS OTHERWISE SPECIFIED.
   ALL RESISTORS ARE 1/6W ±5% CARBON RESISTOR.
   ALL CAPACITORS ARE 50V CERAMIC CAPACITOR OR 50V MYLAR CAPACITOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF)/RATED VOLTAGE (V).
   ALL DIODES ARE 1SS133 OR HSS104 OR MA165.

(UF) UNFLAMMABLE CARBON RESISTOR
(NP) NON-POLARISED ELECTROLYTIC CAPACITOR
(PP) POLYPROPYLENE CAPACITOR

3. THE RESISTORS LISTED BELOW ARE FUSIBLE RESISTOR IN THE MODEL A/B/E/EN/G/U/UT R901, R902, R905, R921, R930, R937, R940, RH802, RH852

SEMICONDUCTOR	Ref. No.
AA1F4M	Q705, Q706, Q707, Q708, Q721, Q722, Q723, Q744, Q745,
2SC945(P,K)	Q701, Q702, Q704, Q712, Q713, Q714, Q730, Q731, Q732,
AN1F4M	Q717, Q718, Q719, Q720, Q703,
2SA733A(P,K)	Q740, Q741, Q742, Q743, Q913,
2SB772(Q,P)	Q903,
2SD882(Q,P)	Q901, Q909,
2SD468(B,C)	Q912, Q915,
2SB647(CD)	Q905,
2SD2144S(VW)	Q907, Q908,



	POWER TRANS.	POWER CORD
A	VTP52Z5-011F	QMP2560-200
B	VTP52Z5-011F	QMP5530-008
C	VTP52A5-011F	QMP1200-200
E/EN	VTP52Z5-011F	QMP3900-200
G	VTP52Z5-011F	QMP3900-200
J	VTP52A5-011F	QMP1340-200
U/UT	VTP52G5-011F	QMP7380-200

⚠ Psrts are safety assurance parts. When replacing those parts make sure to use the specified one.

+B LINE

-B LINE

L
R
Indicator signal line

Fig 6 – 3

7 Location of P.C. Board parts and Parts List

Main Board

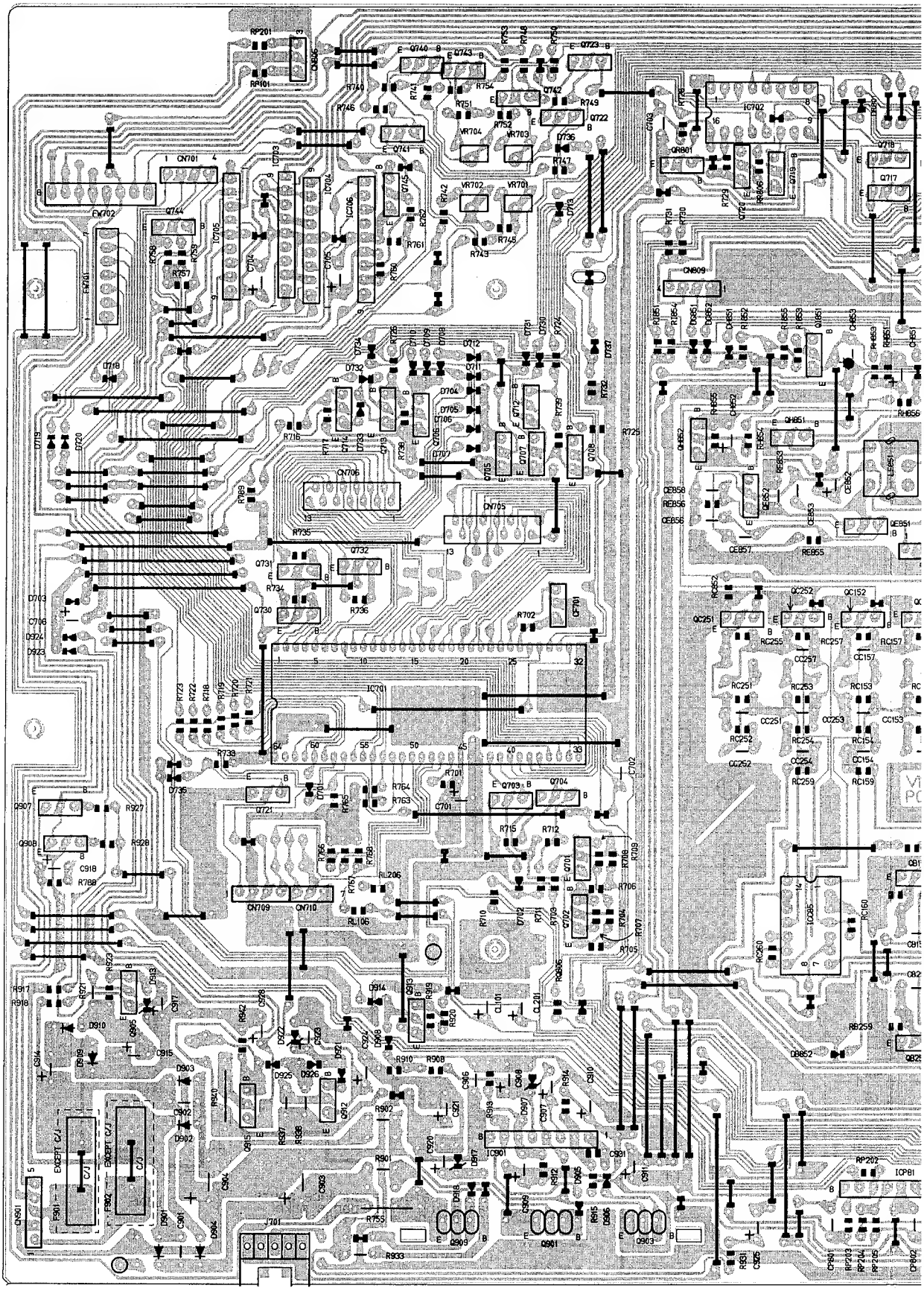
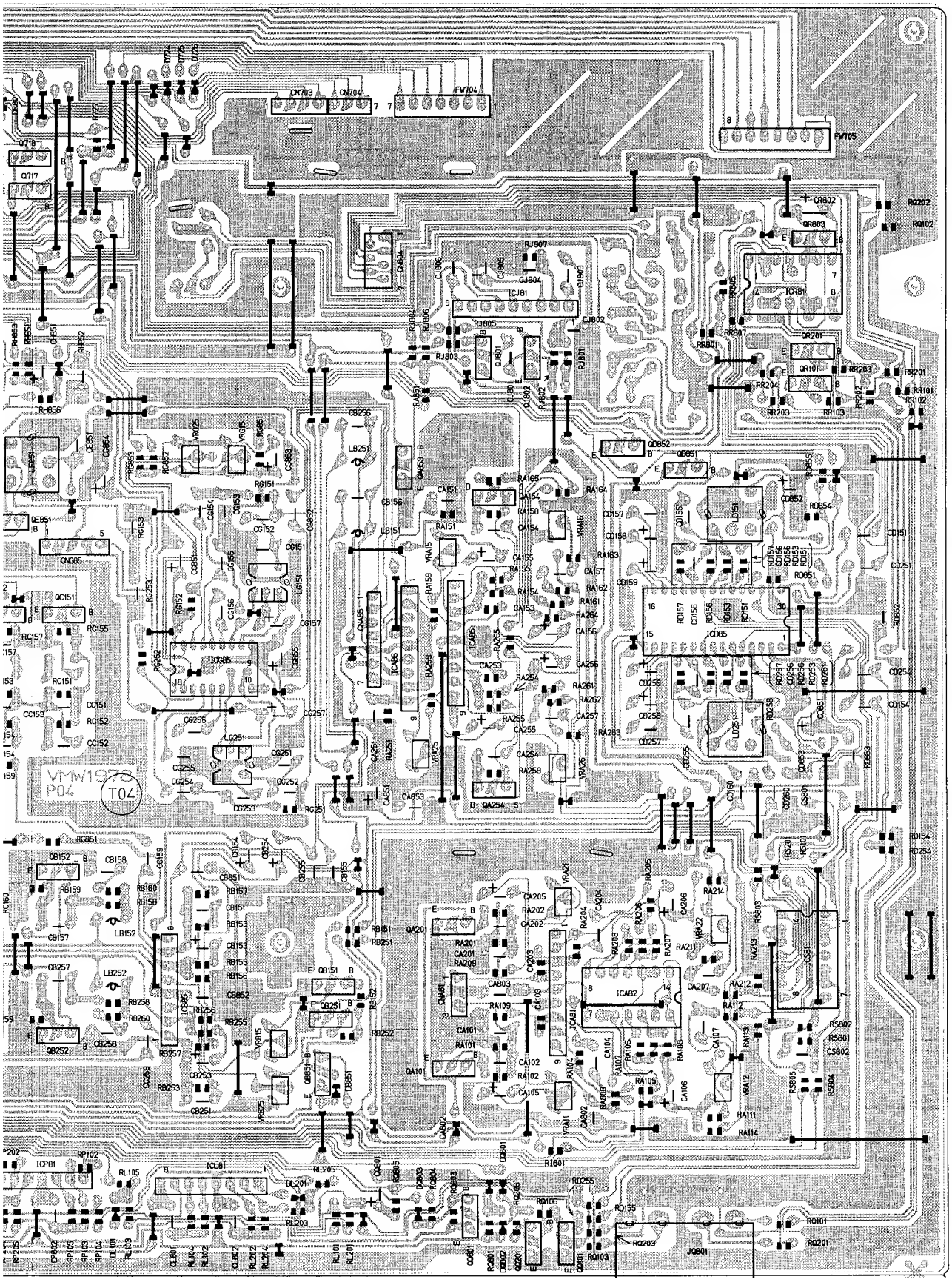


Fig 7 – 1

6	7	8	9	10



● Main board parts List

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 701	QETC1AM-107ZN	E.CAPACITOR	100MF 20% 10V	
	C 702	QCS11HJ-471	C.CAPACITOR	470PF 5% 50V	
	C 703	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
	C 704	QETC1EM-106ZN	E.CAPACITOR	10MF 20% 25V	
	C 705	QETC1EM-106ZN	E.CAPACITOR	10MF 20% 25V	
	C 706	QETC1HM-224ZN	E.CAPACITOR	.22MF 20% 50V	
⚠	C 901	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
⚠	C 902	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
⚠	C 903	QETB1EM-228N	E.CAPACITOR	2200MF 20% 25V	
⚠	C 904	QETB1EM-228N	E.CAPACITOR	2200MF 20% 25V	
	C 906	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
	C 907	QETC1EM-107ZN	E.CAPACITOR	100MF 20% 25V	
	C 908	QETC1AM-477ZN	E.CAPACITOR	470MF 20% 10V	
	C 909	QETC1HM-475ZN	E.CAPACITOR	4.7MF 20% 50V	
	C 910	QETC1AM-337ZN	E.CAPACITOR	330MF 20% 10V	
	C 911	QETC1AM-337ZN	E.CAPACITOR	330MF 20% 10V	
⚠	C 914	QETC1EM-337ZN	E.CAPACITOR	330MF 20% 25V	
	C 915	QETC1HM-227ZN	E.CAPACITOR	220MF 20% 50V	
	C 917	QETC1EM-107ZN	E.CAPACITOR	100MF 20% 25V	
	C 918	QETC1EM-106ZN	E.CAPACITOR	10MF 20% 25V	
	C 920	QETC1CM-107ZN	E.CAPACITOR	100MF 20% 16V	
	C 921	QETC1CM-477ZN	E.CAPACITOR	470MF 20% 16V	
	C 923	QETC1AM-337ZN	E.CAPACITOR	330MF 20% 10V	
	C 924	QETC1AM-107ZN	E.CAPACITOR	100MF 20% 10V	
	C 925	QETC1EM-476ZN	E.CAPACITOR	47MF 20% 25V	
	C 928	QETC1EM-476ZN	E.CAPACITOR	47MF 20% 25V	
	C 931	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	CA101	QCS11HJ-471	C.CAPACITOR	470PF 5% 50V	
	CA102	QCS11HJ-471	C.CAPACITOR	470PF 5% 50V	
	CA103	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	CA104	QFLC1HJ-103ZM	M.CAPACITOR	.010MF 5% 50V	
	CA105	QETC1AM-227ZN	E.CAPACITOR	220MF 20% 10V	
	CA106	QETC1HM-475ZN	E.CAPACITOR	4.7MF 20% 50V	
	CA107	QFLC1HJ-152ZM	M.CAPACITOR	1500PF 5% 50V	
	CA151	QFLC1HJ-102ZM	M.CAPACITOR	1000PF 5% 50V	
	CA153	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	CA154	QFLC1HJ-103ZM	M.CAPACITOR	.010MF 5% 50V	
	CA155	QETC1AM-227ZN	E.CAPACITOR	220MF 20% 10V	
	CA156	QETC1HM-475ZN	E.CAPACITOR	4.7MF 20% 50V	
	CA157	QFLC1HJ-152ZM	M.CAPACITOR	1500PF 5% 50V	
	CA201	QCS11HJ-471	C.CAPACITOR	470PF 5% 50V	
	CA202	QCS11HJ-471	C.CAPACITOR	470PF 5% 50V	
	CA203	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	CA204	QFLC1HJ-103ZM	M.CAPACITOR	.010MF 5% 50V	
	CA205	QETC1AM-227ZN	E.CAPACITOR	220MF 20% 10V	
	CA206	QETC1HM-475ZN	E.CAPACITOR	4.7MF 20% 50V	
	CA207	QFLC1HJ-152ZM	M.CAPACITOR	1500PF 5% 50V	
	CA251	QFLC1HJ-102ZM	M.CAPACITOR	1000PF 5% 50V	
	CA253	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	CA254	QFLC1HJ-103ZM	M.CAPACITOR	.010MF 5% 50V	
	CA255	QETC1AM-227ZN	E.CAPACITOR	220MF 20% 10V	
	CA256	QETC1HM-475ZN	E.CAPACITOR	4.7MF 20% 50V	
	CA257	QFLC1HJ-152ZM	M.CAPACITOR	1500PF 5% 50V	
	CA802	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
	CA803	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	CA851	QETC1EM-106ZN	E.CAPACITOR	10MF 20% 25V	
	CA853	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
	CB151	QCS11HJ-330	C.CAPACITOR	33PF 5% 50V	
	CB153	QETC1HM-474ZN	E.CAPACITOR	.47MF 20% 50V	
	CB154	QETC1HM-105ZN	E.CAPACITOR	1.0MF 20% 50V	
	CB155	QCS11HJ-471	C.CAPACITOR	470PF 5% 50V	
	CB156	QCS32HJ-151ZV	C.CAPACITOR	150PF 5% 500V	
	CB157	QFLC1HJ-123ZM	M.CAPACITOR	.012MF 5% 50V	
	CB158	QFLC1HJ-682ZM	M.CAPACITOR	6800PF 5% 50V	
	CB251	QCS11HJ-330	C.CAPACITOR	33PF 5% 50V	
	CB253	QETC1HM-474ZN	E.CAPACITOR	.47MF 20% 50V	
	CB254	QETC1HM-105ZN	E.CAPACITOR	1.0MF 20% 50V	
	CB255	QCS11HJ-471	C.CAPACITOR	470PF 5% 50V	
	CB256	QCS32HJ-151ZV	C.CAPACITOR	150PF 5% 500V	
	CB257	QFLC1HJ-123ZM	M.CAPACITOR	.012MF 5% 50V	
	CB258	QFLC1HJ-682ZM	M.CAPACITOR	6800PF 5% 50V	
	CB851	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
	CB852	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
	CC151	QCC31EM-273ZV	C.CAPACITOR	.027MF 20% 25V	
	CC152	QCC31EM-563ZV	C.CAPACITOR	.056MF 20% 25V	
	CC153	QCC11EM-103V	C.CAPACITOR	.010MF 20% 25V	
	CC154	QCC31EM-823ZV	C.CAPACITOR	.082MF 20% 25V	
	CC157	QCC11EM-123V	C.CAPACITOR	.012MF 20% 25V	
	CC159	QFLC1HJ-682ZM	M.CAPACITOR	6800PF 5% 50V	
	CC251	QCC31EM-273ZV	C.CAPACITOR	.027MF 20% 25V	
	CC252	QCC31EM-563ZV	C.CAPACITOR	.056MF 20% 25V	
	CC253	QCC11EM-103V	C.CAPACITOR	.010MF 20% 25V	
	CC254	QCC31EM-823ZV	C.CAPACITOR	.082MF 20% 25V	
	CC257	QCC11EM-123V	C.CAPACITOR	.012MF 20% 25V	
	CC259	QFLC1HJ-682ZM	M.CAPACITOR	6800PF 5% 50V	
	CD151	QEN41EM-475	NP.E.CAPACITOR	4.7MF 20% 25V	
	CD154	QEN41EM-475	NP.E.CAPACITOR	4.7MF 20% 25V	
	CD155	QFLC1HJ-222ZM	M.CAPACITOR	2200PF 5% 50V	
	CD156	QFLC1HJ-222ZM	M.CAPACITOR	2200PF 5% 50V	
	CD157	QFLC1HJ-222ZM	M.CAPACITOR	2200PF 5% 50V	
	CD158	QETC1HM-104ZN	E.CAPACITOR	.10MF 20% 50V	
	CD159	QETC1HM-104ZN	E.CAPACITOR	.10MF 20% 50V	
	CD160	QEN41EM-475	NP.E.CAPACITOR	4.7MF 20% 25V	
	CD251	QEN41EM-475	NP.E.CAPACITOR	4.7MF 20% 25V	
	CD254	QEN41EM-475	NP.E.CAPACITOR	4.7MF 20% 25V	
	CD255	QFLC1HJ-222ZM	M.CAPACITOR	2200PF 5% 50V	
	CD256	QFLC1HJ-222ZM	M.CAPACITOR	2200PF 5% 50V	
	CD257	QFLC1HJ-222ZM	M.CAPACITOR	2200PF 5% 50V	
	CD258	QETC1HM-104ZN	E.CAPACITOR	.10MF 20% 50V	
	CD259	QETC1HM-104ZN	E.CAPACITOR	.10MF 20% 50V	
	CD260	QEN41EM-475	NP.E.CAPACITOR	4.7MF 20% 25V	
	CD851	QETC1AM-477ZN	E.CAPACITOR	470MF 20% 10V	
	CD852	QETC1AM-477ZN	E.CAPACITOR	470MF 20% 10V	
	CE851	QFP32AJ-103ZM	PP.CAPACITOR	.010MF 5% 100V	
	CE852	QETC1EM-476ZN	E.CAPACITOR	47MF 20% 25V	
	CE853	QFLC1HJ-223ZM	M.CAPACITOR	.022MF 5% 50V	
	CE856	QFLC1HJ-102ZM	M.CAPACITOR	1000PF 5% 50V	
	CE857	QFLC1HJ-152ZM	M.CAPACITOR	1500PF 5% 50V	
	CE858	QFLC1HJ-152ZM	M.CAPACITOR	1500PF 5% 50V	
	CF701	EFO-GC8004T4	CERAMIC RESONAT	(F=8MHZ)	

● Main board parts List

⚠Parts are safety assurance parts.
When replacing theose parts, make sure to use the soecified one.

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	CG151	QFP32AJ-561ZM	PP.CAPACITOR	560PF 5% 100V	
	CG152	QCS11HJ-101	C.CAPACITOR	100PF 5% 50V	
	CG153	QCS11HJ-561	C.CAPACITOR	560PF 5% 50V	
	CG154	QFLC1HJ-103ZM	M.CAPACITOR	.010MF 5% 50V	
	CG155	QFLC1HJ-223ZM	M.CAPACITOR	.022MF 5% 50V	
	CG156	QFLC1HJ-393ZM	M.CAPACITOR	.039MF 5% 50V	
	CG157	QETC1EM-106ZN	E.CAPACITOR	10MF 20% 25V	
	CG251	QFP32AJ-561ZM	PP.CAPACITOR	560PF 5% 100V	
	CG252	QCS11HJ-101	C.CAPACITOR	100PF 5% 50V	
	CG253	QCS11HJ-561	C.CAPACITOR	560PF 5% 50V	
	CG254	QFLC1HJ-103ZM	M.CAPACITOR	.010MF 5% 50V	
	CG255	QFLC1HJ-223ZM	M.CAPACITOR	.022MF 5% 50V	
	CG256	QFLC1HJ-393ZM	M.CAPACITOR	.039MF 5% 50V	
	CG257	QETC1EM-106ZN	E.CAPACITOR	10MF 20% 25V	
	CG851	QETC1EM-106ZN	E.CAPACITOR	10MF 20% 25V	
	CG852	QCS11HJ-100	C.CAPACITOR	10PF 5% 50V	
	CG853	QETC1HM-105ZN	E.CAPACITOR	1.0MF 20% 50V	
	CG854	QETC1AM-107ZN	E.CAPACITOR	100MF 20% 10V	
	CG855	QETC1AM-107ZN	E.CAPACITOR	100MF 20% 10V	
	CH851	QETC1HM-475ZN	E.CAPACITOR	4.7MF 20% 50V	
	CH852	QETC1AM-107ZN	E.CAPACITOR	100MF 20% 10V	
	CH853	QETC1CM-337ZN	E.CAPACITOR	330MF 20% 16V	
	CJ801	QFLC1HJ-682ZM	M.CAPACITOR	6800PF 5% 50V	
	CJ802	QCS11HJ-681	C.CAPACITOR	680PF 5% 50V	
	CJ803	QFLC1HJ-102ZM	M.CAPACITOR	1000PF 5% 50V	
	CJ804	QFV71HJ-394ZM	FILM CAPACITOR	.39MF 5% 50V	
	CJ805	QETC1HM-104ZN	E.CAPACITOR	.10MF 20% 50V	
	CJ806	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
	CL101	QETC1EM-106ZN	E.CAPACITOR	10MF 20% 25V	
	CL201	QETC1EM-106ZN	E.CAPACITOR	10MF 20% 25V	
	CL801	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
	CL802	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
	CNA81	TTL25V-003	CONNECTOR	HEAD BOARD	
	CNA85	TTL25V-007	CONNECTOR	TO B-HEAD BOARD	
	CNG85	VMC0238-005Z	CONNECTOR	TES POINT	
	CN701	VMC0166-004Z	CONNECTOR	A REAF SWITCH	
	CN703	VMC0166-004Z	CONNECTOR	B LIEF SWITCH	
	CN704	VMC0166-003Z	CONNECTOR	B LIEF SWITCH	
	CN705	VMC0163-013	CONNECTOR	INGICATOR	
	CN706	VMC0163-013	CONNECTOR	INGICATOR	
	CN709	VMC0166-004Z	CONNECTOR		
	CN710	VMC0166-003Z	CONNECTOR		
	CN804	VMC0163-007	CONNECTOR	INPUT&KEY	
	CN806	VMC0166-003Z	CONNECTOR	HP AMP	
	CN809	VMC0166-004Z	CONNECTOR	DOLBY SW	
	CN901	VMC0166-005Z	CONNECTOR		
	CP801	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
	CP802	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
	CQ801	QETC1HM-105ZN	E.CAPACITOR	1.0MF 20% 50V	
	CR802	QETC1HM-105ZN	E.CAPACITOR	1.0MF 20% 50V	
	CS802	QCS11HJ-471	C.CAPACITOR	470PF 5% 50V	
	D 701	1SS133	SI DIODE		
	D 702	1SS133	SI DIODE		
	D 703	1SS133	SI DIODE		
	D 704	1SS133	SI DIODE		

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	D 705	1SS133	SI DIODE		
	D 706	1SS133	SI DIODE		
	D 707	1SS133	SI DIODE		
	D 708	1SS133	SI DIODE		
	D 709	1SS133	SI DIODE		
	D 710	1SS133	SI DIODE		
	D 711	1SS133	SI DIODE		
	D 712	1SS133	SI DIODE		
	D 713	1SS133	SI DIODE		
	D 718	1SS133	SI DIODE		
	D 719	1SS133	SI DIODE		
	D 720	1SS133	SI DIODE		
	D 724	1SS133	SI DIODE		
	D 725	1SS133	SI DIODE		
	D 726	1SS133	SI DIODE		
	D 729	1SS133	SI DIODE		
	D 730	1SS133	SI DIODE		
	D 731	1SS133	SI DIODE		
	D 732	1SS133	SI DIODE		
	D 733	1SS133	SI DIODE		
	D 735	1SS133	SI DIODE		
	D 736	1SS133	SI DIODE		
	D 737	1SS133	SI DIODE		
⚠	D 901	1SR35-100A	SI DIODE		
⚠	D 902	1SR35-100A	SI DIODE		
⚠	D 903	1SR35-100A	SI DIODE		
⚠	D 904	1SR35-100A	SI DIODE		
	D 905	1SS133	SI DIODE		
	D 906	1SS133	SI DIODE		
	D 907	MTZ3.6JA	ZENER DIODE		
	D 908	1SS133	SI DIODE		
⚠	D 909	1SR35-100A	SI DIODE		
⚠	D 910	1SR35-100A	SI DIODE		
	D 913	MTZ24JD	ZENER DIODE		
	D 914	1SS133	SI DIODE		
	D 917	1SS133	SI DIODE		
	D 918	MTZ12C	ZENER DIODE		
	D 921	1SS133	SI DIODE		
	D 922	MTZ6.2CT-77	ZENER DIODE		
	D 923	1SS133	SI DIODE		
	D 924	1SS133	SI DIODE		
	D 925	1SS133	SI DIODE		
	D 926	1SS133	SI DIODE		
	DA802	1SS133	SI DIODE		
	DB851	1SS133	SI DIODE		
	DB852	1SS133	SI DIODE		
	DG851	1SS133	SI DIODE		
	DG852	1SS133	SI DIODE		
	DH851	1SS133	SI DIODE		
	DL101	1SS133	SI DIODE		
	DL201	1SS133	SI DIODE		
	DQ801	1SS133	SI DIODE		
	DQ802	1SS133	SI DIODE		
	DQ803	1SS133	SI DIODE		
	DR801	1SS133	SI DIODE		

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	ICA81	AN6557F	IC	HEAD AMP.	
	ICA82	BU4066B	IC	A PB EQ SELECT	
	ICA85	AN6557F	IC	B-HEAD AMP.	
	ICA86	UPC1330HA	IC	HEAD R/P SW	
	ICB85	BA15218N	IC	REC AMP.	
	ICC85	BU4066B	IC	REC EQ SELECT	
	ICD85	HA12142NT	IC	DOLBY NR	
	ICG85	UPC1297CA	IC	HX PRO	
	ICJ81	LA2000S	IC	MS DETECT	
	ICL81	BA15218N	IC	INGICATOR AMP	
	ICP81	BA15218N	IC	HEAD PHONE AMP	
	ICR81	BU4066B	IC	DDRP SWITCH	
	ICS81	BU4066B	IC	PB A-B SELECT	
	IC701	MB88514B-1636T	IC	CONTROL MICOM	
	IC702	M50253P	IC	PORT EXPANDER	
	IC703	BA6218	IC	A CAM M.DRIVE	
	IC704	BA6218	IC	B CAM M.DRIVE	
	IC705	TA8409S	IC	A REEL M.DRIVE	
	IC706	TA8409S	IC	B REEL M.DRIVE	
⚠	IC901	BA15218N	IC	REGURATOR	
	J 701	QMS3533-001	JACK	COMPU LINK JACK	
	JQ801	EMN00TV-402A	PIN JACK		
	LB151	VQP0001-183	INDUCTOR		
	LB152	VQP0001-562ZS	INDUCTOR		
	LB251	VQP0001-183	INDUCTOR		
	LB252	VQP0001-562ZS	INDUCTOR		
	LD151	VQZ0024-001	FILTER		
	LD251	VQZ0024-001	FILTER		
	LE851	VQH1008-031	OSC COIL(BIAS)		
	LG151	VQH7001-021	OSC COIL(BIAS)		
	LG251	VQH7001-021	OSC COIL(BIAS)		
	Q 701	2SC945	TRANSISTOR		
	Q 702	2SC945	TRANSISTOR		
	Q 703	AN1F4M	TRANSISTOR		
	Q 704	2SC945	TRANSISTOR		
	Q 705	UN4212	TRANSISTOR		
	Q 706	UN4212	TRANSISTOR		
	Q 707	UN4212	TRANSISTOR		
	Q 708	UN4212	TRANSISTOR		
	Q 712	2SC945	TRANSISTOR		
	Q 713	2SC945	TRANSISTOR		
	Q 714	2SC945	TRANSISTOR		
	Q 717	AN1F4M	TRANSISTOR		
	Q 718	AN1F4M	TRANSISTOR		
	Q 719	AN1F4M	TRANSISTOR		
	Q 720	AN1F4M	TRANSISTOR		
	Q 721	UN4212	TRANSISTOR		
	Q 722	UN4212	TRANSISTOR		
	Q 723	UN4212	TRANSISTOR		
	Q 730	2SC945	TRANSISTOR		
	Q 731	2SC945	TRANSISTOR		
	Q 732	2SC945	TRANSISTOR		
	Q 740	2SA733A(P,K)	TRANSISTOR		
	Q 741	2SA733A(P,K)	TRANSISTOR		
	Q 742	2SA733A(P,K)	TRANSISTOR		

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	Q 743	2SA733A(P,K)	TRANSISTOR		
	Q 744	UN4212	TRANSISTOR		
	Q 745	UN4212	TRANSISTOR		
⚠	Q 901	2SD882(P,Q)	TRANSISTOR		
⚠	Q 903	2SB772(Q,P)	TRANSISTOR		
⚠	Q 905	2SB647(CD)	TRANSISTOR		
	Q 907	2SD2144S(VW)	TRANSISTOR		
	Q 908	2SD2144S(VW)	TRANSISTOR		
⚠	Q 909	2SD882(P,Q)	TRANSISTOR		
⚠	Q 912	2SD468(B,C)	TRANSISTOR		
	Q 913	2SA733A(P,K)	TRANSISTOR		
⚠	Q 915	2SD468(B,C)	TRANSISTOR		
	QA101	UN4212	TRANSISTOR		
	QA154	2SK105(HJ)	TRANSISTOR(FET)		
	QA201	UN4212	TRANSISTOR		
	QA254	2SK105(HJ)	TRANSISTOR(FET)		
	QA853	UN4212	TRANSISTOR		
	QB151	2SC2001(L,K)	TRANSISTOR		
	QB152	UN4212	TRANSISTOR		
	QB251	2SC2001(L,K)	TRANSISTOR		
	QB252	UN4212	TRANSISTOR		
	QB851	AN1F4M	TRANSISTOR		
	QC151	2SC945	TRANSISTOR		
	QC152	UN4212	TRANSISTOR		
	QC251	2SC945	TRANSISTOR		
	QC252	UN4212	TRANSISTOR		
	QD851	AN1F4M	TRANSISTOR		
	QD852	UN4212	TRANSISTOR		
	QE851	2SC2001(L,K)	TRANSISTOR		
	QE852	2SC2001(L,K)	TRANSISTOR		
	QH851	2SC2001(L,K)	TRANSISTOR		
	QH852	2SA733A(P,K)	TRANSISTOR		
	QI851	2SC945	TRANSISTOR		
	QJ801	2SC945	TRANSISTOR		
	QJ802	2SC945	TRANSISTOR		
	QQ101	2SC2001(L,K)	TRANSISTOR		
	QQ201	2SC2001(L,K)	TRANSISTOR		
	QQ801	2SA733A(P,K)	TRANSISTOR		
	QR101	2SC945	TRANSISTOR		
	QR201	2SC945	TRANSISTOR		
	QR801	UN4212	TRANSISTOR		
	QR803	UN4212	TRANSISTOR		
	R 701	QRD161J-221	CARBON RESISTOR	220 5% 1/6W	
	R 702	QRD161J-153	CARBON RESISTOR	15K 5% 1/6W	
	R 703	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	R 704	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 705	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 706	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 707	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	R 708	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R 709	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 710	QRD161J-221	CARBON RESISTOR	220 5% 1/6W	
	R 711	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 712	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 715	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 716	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 717	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 718	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 719	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 720	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 721	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 722	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 723	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 724	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 725	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 726	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 727	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 728	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 729	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 730	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 731	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 732	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 733	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 734	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 735	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 736	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 738	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 739	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 740	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
	R 741	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
	R 742	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 743	QRD161J-153	CARBON RESISTOR	15K 5% 1/6W	
	R 745	QRD161J-683	CARBON RESISTOR	68K 5% 1/6W	
	R 746	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
	R 747	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
	R 748	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
	R 749	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
	R 750	QRD161J-683	CARBON RESISTOR	68K 5% 1/6W	
	R 751	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 752	QRD161J-153	CARBON RESISTOR	15K 5% 1/6W	
	R 753	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
	R 754	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
⚠	R 755	QRD14CJ-4R7SX	UNF.C.RESISTOR	4.7 5% 1/4W	C,J
⚠	R 755	QRH144J-4R7	FUSI.RESISTOR	4.7 5% 1/4W	G,U,UT
⚠	R 755	QRH144J-4R7	FUSI.RESISTOR	4.7 5% 1/4W	A,B,E,EN
	R 757	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 758	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R 759	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	R 760	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 761	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R 762	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	R 763	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 764	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 765	QRD167J-682	CARBON RESISTOR	6.8K 5% 1/6W	
	R 766	QRD167J-682	CARBON RESISTOR	6.8K 5% 1/6W	
	R 767	QRD167J-682	CARBON RESISTOR	6.8K 5% 1/6W	
	R 768	QRD167J-682	CARBON RESISTOR	6.8K 5% 1/6W	
	R 788	QRD161J-391	CARBON RESISTOR	390 5% 1/6W	
	R 789	QRD161J-391	CARBON RESISTOR	390 5% 1/6W	
⚠	R 901	QRD14CJ-4R7SX	CARBON RESISTOR	4.7 5% 1/4W	C,J

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
⚠	R 901	QRZ0077-4R7X	CARBON RESISTOR	4.7 5% 1/4W	G,U,UT
⚠	R 901	QRZ0077-4R7X	CARBON RESISTOR	4.7 5% 1/4W	A,B,E,EN
⚠	R 902	QRZ0077-4RX	FNF.F.RESISTOR	4.7 5% 1/4W	G,U,UT
⚠	R 902	QRD14CJ-4R7SX	UNF.C.RESISTOR	4.7 5% 1/4W	C,J
⚠	R 902	QRZ0077-4R7X	FUSE RESISTOR	4.7 5% 1/4W	A,B,E,EN
	R 908	QRD161J-181	CARBON RESISTOR	180 5% 1/6W	
	R 910	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 912	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 913	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 914	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 915	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 917	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 918	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 919	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 920	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
⚠	R 921	QRZ0077-100X	CARBON RESISTOR	10 5% 1/4W	A,B,E,EN
⚠	R 921	QRZ0077-100X	FUSI.RESISTOR	10 5% 1/4W	G,U,UT
⚠	R 921	QRD14CJ-100SX	CARBON RESISTOR	10 5% 1/4W	C,J
	R 923	QRD161J-821	CARBON RESISTOR	820 5% 1/6W	
	R 927	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 928	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
⚠	R 931	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
⚠	R 933	QRD14CJ-331SX	CARBON RESISTOR	330 5% 1/4W	
⚠	R 937	QRD14CJ-4R7SX	CARBON RESISTOR	4.7 5% 1/4W	C,J
⚠	R 937	QRZ0077-4R7X	UNF.C.RESISTOR	4.7 5% 1/4W	G,U,UT
⚠	R 937	QRZ0077-4R7X	CARBON RESISTOR	4.7 5% 1/4W	A,B,E,EN
⚠	R 938	QRD14CJ-331SX	CARBON RESISTOR	330 5% 1/4W	
⚠	R 940	QRD14CJ-6R8SX	CARBON RESISTOR	6.8 5% 1/4W	
⚠	R 940	QRH144J-6R8	FUSI.RESISTOR	6.8 5% 1/4W	
⚠	R 940	QRH144J-6R8	FUSI.RESISTOR	6.8 5% 1/4W	
⚠	R 942	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	RA101	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	RA102	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	
	RA104	QRD161J-394	CARBON RESISTOR	390K 5% 1/6W	
	RA105	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	RA106	QRD161J-392	CARBON RESISTOR	3.9K 5% 1/6W	
	RA107	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	RA108	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	RA109	QRD161J-180	CARBON RESISTOR	18 5% 1/6W	
	RA111	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	RA112	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RA113	QRD161J-123	CARBON RESISTOR	12K 5% 1/6W	
	RA114	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	RA151	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	RA154	QRD161J-394	CARBON RESISTOR	390K 5% 1/6W	
	RA155	QRD167J-682	CARBON RESISTOR	6.8K 5% 1/6W	
	RA158	QRD161J-512	CARBON RESISTOR	5.1K 5% 1/6W	
	RA159	QRD161J-180	CARBON RESISTOR	18 5% 1/6W	
	RA161	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	RA162	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RA163	QRD161J-123	CARBON RESISTOR	12K 5% 1/6W	
	RA164	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	RA165	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	
	RA201	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	RA202	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	RA204	QRD161J-394	CARBON RESISTOR	390K 5% 1/6W	
	RA205	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	RA206	QRD161J-392	CARBON RESISTOR	3.9K 5% 1/6W	
	RA207	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	RA208	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	RA209	QRD161J-180	CARBON RESISTOR	18 5% 1/6W	
	RA211	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	RA212	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RA213	QRD161J-123	CARBON RESISTOR	12K 5% 1/6W	
	RA214	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	RA251	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	RA254	QRD161J-394	CARBON RESISTOR	390K 5% 1/6W	
	RA255	QRD167J-682	CARBON RESISTOR	6.8K 5% 1/6W	
	RA258	QRD161J-512	CARBON RESISTOR	5.1K 5% 1/6W	
	RA259	QRD161J-180	CARBON RESISTOR	18 5% 1/6W	
	RA261	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	RA262	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RA263	QRD161J-123	CARBON RESISTOR	12K 5% 1/6W	
	RA264	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	RA265	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	
	RA808	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	RA851	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	RB151	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	RB152	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	RB153	QRD161J-153	CARBON RESISTOR	15K 5% 1/6W	
	RB155	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	RB156	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	RB157	QRD161J-153	CARBON RESISTOR	15K 5% 1/6W	
	RB158	QRD161J-561	CARBON RESISTOR	560 5% 1/6W	
	RB159	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	
	RB160	QRD161J-391	CARBON RESISTOR	390 5% 1/6W	
	RB251	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	RB252	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	RB253	QRD161J-153	CARBON RESISTOR	15K 5% 1/6W	
	RB255	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	RB256	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	RB257	QRD161J-153	CARBON RESISTOR	15K 5% 1/6W	
	RB258	QRD161J-561	CARBON RESISTOR	560 5% 1/6W	
	RB259	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	
	RB260	QRD161J-391	CARBON RESISTOR	390 5% 1/6W	
	RC151	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	RC152	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	RC153	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
	RC154	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	RC155	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	RC157	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
	RC159	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RC160	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	
	RC251	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	RC252	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	RC253	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
	RC254	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	RC255	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	RC257	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
	RC259	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	RC260	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	
	RC851	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	RC852	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	RD151	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	RD153	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	RD154	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	RD155	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	RD156	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	RD157	QRD161J-561	CARBON RESISTOR	560 5% 1/6W	
	RD251	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	RD253	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	RD254	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	RD255	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	RD256	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	RD257	QRD161J-561	CARBON RESISTOR	560 5% 1/6W	
	RD851	QRD161J-183	CARBON RESISTOR	18K 5% 1/6W	
⚠	RD852	QRD14CJ-470SX	CARBON RESISTOR	47 5% 1/4W	
⚠	RD853	QRD14CJ-470SX	CARBON RESISTOR	47 5% 1/4W	
	RD854	QRD161J-183	CARBON RESISTOR	18K 5% 1/6W	
	RD855	QRD161J-153	CARBON RESISTOR	15K 5% 1/6W	
⚠	RE853	QRD14CJ-6R8SX	CARBON RESISTOR	6.8 5% 1/4W	
	RE855	QRD161J-823	CARBON RESISTOR	82K 5% 1/6W	
	RE856	QRD161J-823	CARBON RESISTOR	82K 5% 1/6W	
	RG151	QRD161J-274	CARBON RESISTOR	270K 5% 1/6W	
	RG152	QRD161J-333	CARBON RESISTOR	33K 5% 1/6W	
⚠	RG153	QRD14CJ-100SX	CARBON RESISTOR	10 5% 1/4W	
	RG251	QRD161J-274	CARBON RESISTOR	270K 5% 1/6W	
	RG252	QRD161J-333	CARBON RESISTOR	33K 5% 1/6W	
⚠	RG253	QRD14CJ-100SX	CARBON RESISTOR	10 5% 1/4W	
	RG851	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RG852	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	RG853	QRD161J-392	CARBON RESISTOR	3.9K 5% 1/6W	
	RH851	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
⚠	RH852	QRD14CJ-4R7SX	UNF.C.RESISTOR	4.7 1/4W	C,J
⚠	RH852	QRZ0077-4R7X	CARBON RESISTOR	4.7 1/4W	EN,U,UT
⚠	RH852	QRZ0077-4R7X	FUSE RESISTOR	4.7 1/4W	A,B,E,G
	RH853	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	RH854	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	RH855	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	RH856	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	RI801	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	RI851	QRD161J-182	CARBON RESISTOR	1.8K 5% 1/6W	
	RI852	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	RI853	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	RI854	QRD161J-182	CARBON RESISTOR	1.8K 5% 1/6W	
	RI855	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	RJ801	QRD161J-683	CARBON RESISTOR	68K 5% 1/6W	
	RJ802	QRD161J-683	CARBON RESISTOR	68K 5% 1/6W	
	RJ803	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	RJ804	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	RJ805	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	RJ806	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	RJ807	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
	RL101	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	RL102	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	RL103	QRD161J-683	CARBON RESISTOR	68K 5% 1/6W	
	RL104	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
	RL105	QRD161J-220	CARBON RESISTOR	22 5% 1/6W	
	RL106	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	RL201	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	RL202	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RL203	QRD161J-683	CARBON RESISTOR	68K 5% 1/6W	
	RL204	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
	RL205	QRD161J-220	CARBON RESISTOR	22 5% 1/6W	
	RL206	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	RP101	QRD161J-151	CARBON RESISTOR	150 5% 1/6W	
	RP102	QRD161J-124	CARBON RESISTOR	120K 5% 1/6W	
	RP103	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RP104	QRD167J-562	CARBON RESISTOR	5.6K 5% 1/6W	
	RP105	QRD161J-182	CARBON RESISTOR	1.8K 5% 1/6W	
	RP201	QRD161J-151	CARBON RESISTOR	150 5% 1/6W	
	RP202	QRD161J-124	CARBON RESISTOR	120K 5% 1/6W	
	RP203	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RP204	QRD167J-562	CARBON RESISTOR	5.6K 5% 1/6W	
	RP205	QRD161J-182	CARBON RESISTOR	1.8K 5% 1/6W	
	RQ101	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
	RQ102	QRD161J-393	CARBON RESISTOR	39K 5% 1/6W	
	RQ103	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	RQ106	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	RQ201	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
	RQ202	QRD161J-393	CARBON RESISTOR	39K 5% 1/6W	
	RQ203	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	RQ206	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	RQ801	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RQ803	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	RQ804	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RQ805	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	RQ806	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RR101	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	RR102	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	RR103	QRD161J-823	CARBON RESISTOR	82K 5% 1/6W	
	RR104	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	RR201	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	RR202	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	RR203	QRD161J-823	CARBON RESISTOR	82K 5% 1/6W	
	RR204	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	RR801	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	RR805	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	RR806	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	RR807	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	RS801	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	RS802	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	RS803	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	RS804	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	RS805	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	VRA11	QVZ3523-101	V.RESISTOR	A PB LEVEL ADJ	
	VRA12	QVZ3523-203AZ	V.RESISTOR	A PB EQ ADJ	
	VRA15	QVZ3523-101	V.RESISTOR	B PB LEVEL ADJ	
	VRA16	QVZ3523-203AZ	V.RESISTOR	B PB EQ ADJ	
	VRA21	QVZ3523-101	V.RESISTOR	A PB LEVEL ADJ	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	VRA22	QVZ3523-203AZ	V.RESISTOR	A PB EQ ADJ	
	VRA25	QVZ3523-101	V.RESISTOR	B PB LEVEL ADJ	
	VRA26	QVZ3523-203AZ	V.RESISTOR	B PB EQ ADJ	
	VRB15	QVZ3523-203AZ	V.RESISTOR	B REC LEVEL ADJ	
	VRB25	QVZ3523-203AZ	V.RESISTOR	B REC LEVEL ADJ	
	VRG15	QVZ3523-203AZ	V.RESISTOR	B BIAS ADJ	
	VRG25	QVZ3523-203AZ	V.RESISTOR	B BIAS ADJ	
	VR701	QVPE612-103ZM	SEMI.V.RESISTOR	A N.SPEED ADJ	
	VR702	QVPE612-203ZM	SEMI.V.RESISTOR	A H.SPEED ADJ	
	VR703	QVPE612-103ZM	SEMI.V.RESISTOR	B N.SPEED ADJ	
	VR704	QVPE612-203ZM	SEMI.V.RESISTOR	B H.SPEED ADJ	

■ Sub Board

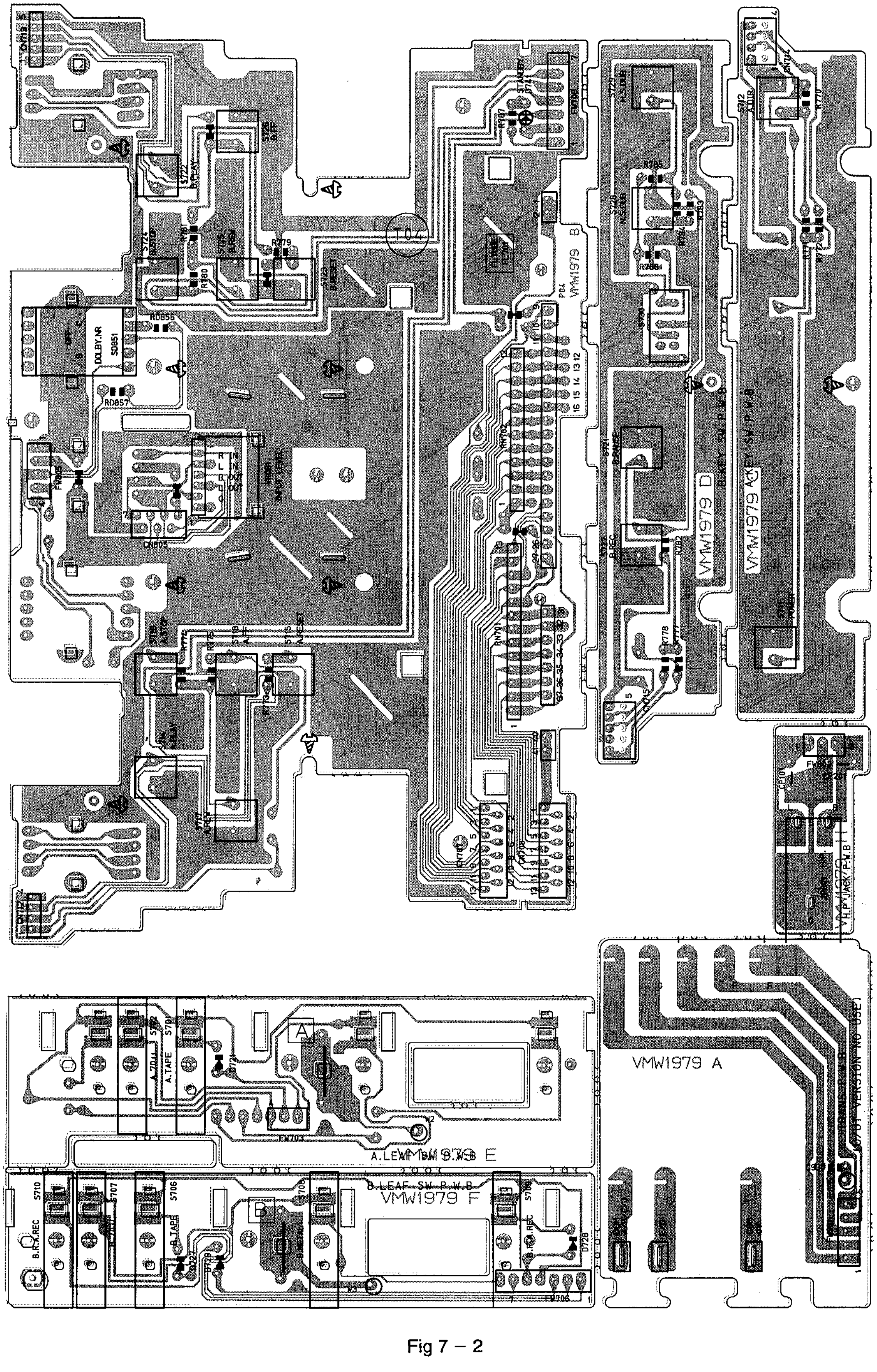


Fig 7 – 2

● Sub /powerSupply Board Parts List

⚠Parts are safety assurance parts.
When replacing those parts,
make sure to use the specified one.

BLOCK NO. 02

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 930	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
	CN707	VMC0163-013	CONNECTOR	INGICATOR	
	CN708	VMC0163-013	CONNECTOR	INGICATOR	
	CN712	VMC0280-004	CONNECTOR	POWER/A-DIR SW	
	CN713	VMC0280-005	CONNECTOR	B KEY SWITCH	
	CN714	VMC0281-S04	CONNECTOR	POWER/A-DIR SW	
	CN715	VMC0281-S05	CONNECTOR	B KEY SWITCH	
	CN805	VMC0163-007	CONNECTOR	INPUT&KEY	
	CP101	QCF11HP-223	C.CAPACITOR	.022MF +100:-0%	
	CP201	QCF11HP-223	C.CAPACITOR	.022MF +100:-0%	
	D 721	1SS133	SI DIODE		
	D 727	1SS133	SI DIODE		
	D 728	1SS133	SI DIODE		
	D 741	SLR-55VCF08	LED		
	FL701	BJ150GK	FL TUBE		
	JP801	QMS6032-V01	JACK	H.P JACK	
	R 770	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 771	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
	R 772	QRD161J-182	CARBON RESISTOR	1.8K 5% 1/6W	
	R 773	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R 774	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 775	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
	R 777	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 778	QRD161J-182	CARBON RESISTOR	1.8K 5% 1/6W	
	R 779	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R 780	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 781	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
	R 782	QRD161J-182	CARBON RESISTOR	1.8K 5% 1/6W	
	R 783	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R 784	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 785	QRD161J-822	CARBON RESISTOR	8.2K 5% 1/6W	
	R 786	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
	R 787	QRD161J-151	CARBON RESISTOR	150 5% 1/6W	
	RD856	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RD857	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RN701	QRB125J-473	R.NETWORK	47K 5% 1/2W	
	RN702	QRB115J-473	R.NETWORK	47K 5% 1/1W	
	S 701	VSH1140-006	LEAF SWITCH	A TAPE	
	S 702	VSH1140-006	LEAF SWITCH	A EQ7OMICRO	
	S 706	VSH1140-006	LEAF SWITCH	B TAPE	
	S 707	VSH1140-006	LEAF SWITCH	B EQ7OMICRO	
	S 708	VSH1140-006	LEAF SWITCH	B METAL	
	S 709	VSH1140-006	LEAF SWITCH	B F.A.REC	
	S 710	VSH1140-006	LEAF SWITCH	B R.A.REC	
	S 711	QSQ4H11-V01	TACT SWITCH	KEY POWER	
	S 712	QSQ4H11-V01	TACT SWITCH	KEY A-DIRECTION	
	S 714	QSQ4H11-V01	TACT SWITCH	KEY A-PLAY	
	S 715	QSQ4H11-V01	TACT SWITCH	KEY A-COUNTER	
	S 716	QSQ4H11-V01	TACT SWITCH	KEY A-STOP	
	S 717	QSQ4H11-V01	TACT SWITCH	KEY A-REW	
	S 718	QSQ4H11-V01	TACT SWITCH	KEY A-FF	
	S 720	QSQ4H11-V01	TACT SWITCH	KEY B-DIRECTION	
	S 721	QSQ4H11-V01	TACT SWITCH	KEY B-PAUSE	
	S 722	QSQ4H11-V01	TACT SWITCH	KEY B-PLAY	
	S 723	QSQ4H11-V01	TACT SWITCH	KEY B-COUNTER	

BLOCK NO. 02

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	S 724	QSQ4H11-V01	TACT SWITCH	KEY B-STOP	
	S 725	QSQ4H11-V01	TACT SWITCH	KEY B-REW	
	S 726	QSQ4H11-V01	TACT SWITCH	KEY B-FF	
	S 727	QSQ4H11-V01	TACT SWITCH	KEY B-REC	
	S 728	QSQ4H11-V01	TACT SWITCH	KEY N.S.DUB	
	S 729	QSQ4H11-V01	TACT SWITCH	KEY H.S.DUB	
	S 730	QSS7A23-V03	SLIDE SWITCH	REV.MODE SWITCH	
	SD851	QSR2D13-V02	ROTARY SWITCH	(DOLBY SW)	
	TAB	VMZ0034-002	TAB	FOR POWER CORD	
	VRQ81	QVDB22A-V02	V.RESISTOR	INPUT LEVEL	

■ Power supply Board (U/UT only)

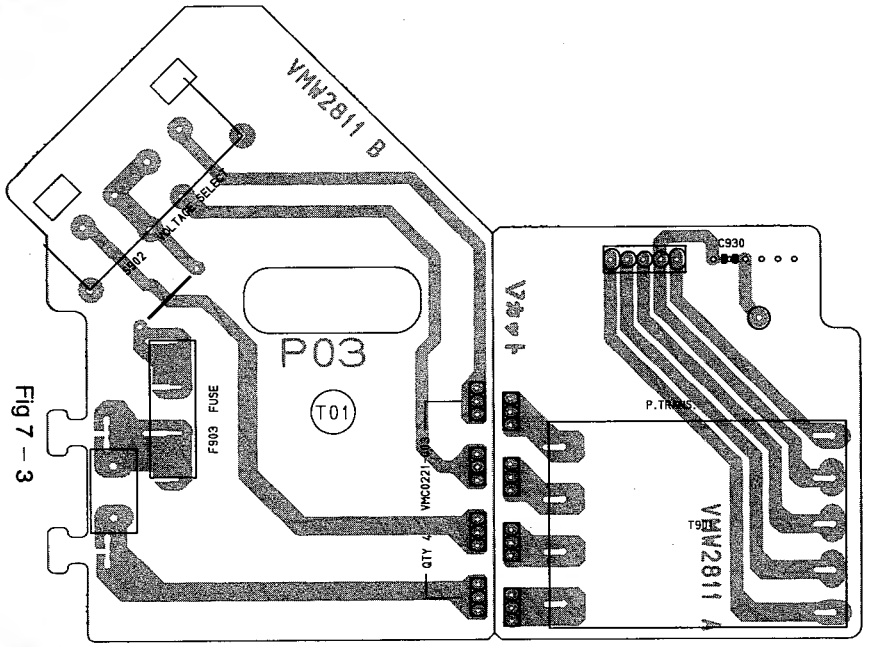


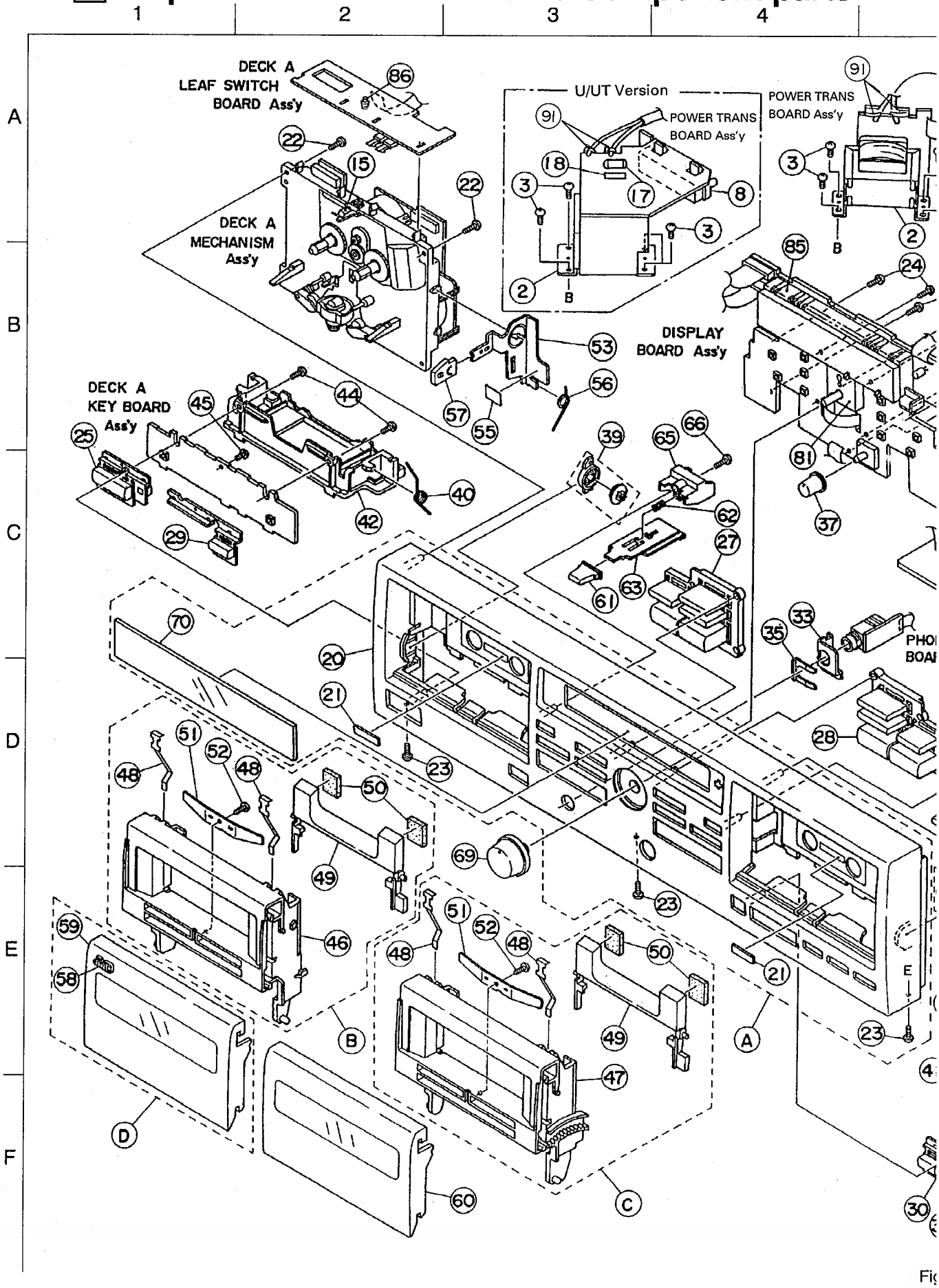
Fig 7 – 3

● Power Supply Board Parts Liat

BLOCK NO. 03

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 930	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
⚠	CN905	VMC0221-003	CONNECTOR	BOARD CONNECT	U,UT
⚠	CN906	VMC0221-003	CONNECTOR	BOARD CONNECT	U,UT
⚠	CN907	VMC0221-003	CONNECTOR	BOARD CONNECT	U,UT
⚠	CN908	VMC0221-003	CONNECTOR	BOARD CONNECT	U,UT
	F 903	VMZ0043-001S	FUSE CLAMP	FOR F903	U,UT
⚠	S 902	QSS2325-112	SLIDE SWITCH		U,UT
⚠	F 903	QMF51A2-R315	FUSE	315mA	U,UT (Refer to page35.)
⚠	T 901	VTP52G5-011F	POWER TRANS.		U,UT (Refer to page35.)

8 Exploded View of Enclosure Component parts



Fig

5	6	7	8	9

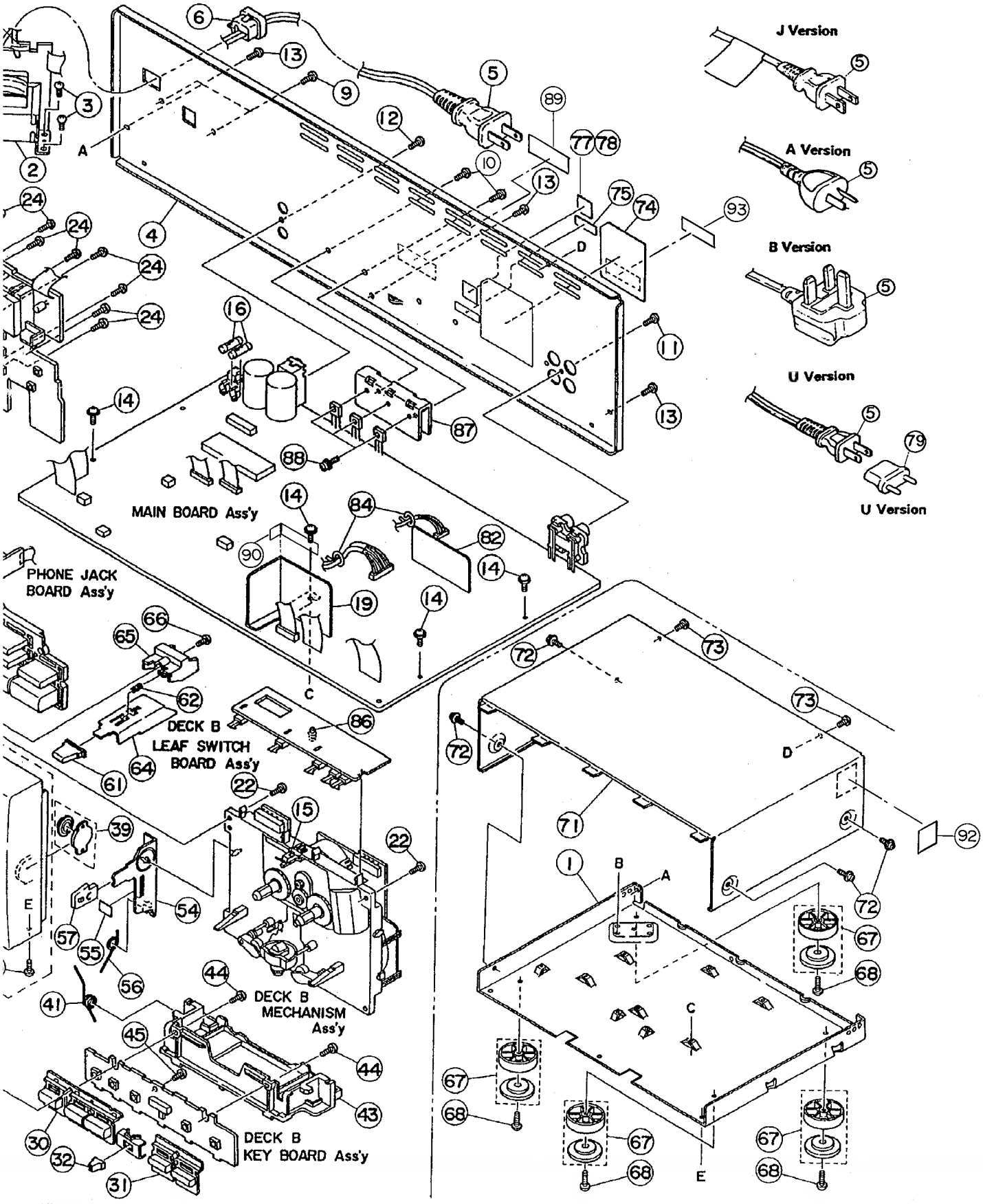

J Version
A Version
B Version
U Version
U Version
MAIN BOARD Ass'y
PHONE JACK BOARD Ass'y
DECK B LEAF SWITCH BOARD Ass'y
DECK B MECHANISM Ass'y
DECK B KEY BOARD Ass'y

Fig 8 – 1

⚠Parts are safety assurance parts.
When replacing those parts,
make sure to use the specified one.

● Enclosure Component Parts List

BLOCK NO. M1MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A	**ZCTDW315J-FTN**	FRONT PANEL		1	C,J	TN
		ZCTDW316K-FB	FRONT PANEL		1	A,B,E,EN,G,U,UT	BK
	B	**ZCTDW316K-CH-A**	CASSETTE HOLDER	DECK A	1		
	C	**ZCTDW316K-CH-B**	CASSETTE HOLDER	DECK B	1		
	D	**ZCTDW315K-CL**	CASSETTE LID	DECK A	1	C,J	TN
		ZCTDW316K-CL	CASSETTE LID	DECK A	1	A,B,E,EN,G,U,UT	BK
	1	VKL1333-009	CHASSIS BASE		1		
⚠	2	VTP52Z5-011F	POWER TRANS.	FOR T901	1	A,B,E,EN,G	
⚠		VTP52A5-011F	POWER TRANS.	FOR T901	1	C,J	
⚠		VTP52G5-011F	POWER TRANS.	FOR T901	1	U,UT	
	3	SBST3006Z	SCREW	FOR POWER TRANS	4		
	4	VJC2410-036	REAR PANEL		1	C,J	TN
		VJC2410-039	REAR PANEL		1	U,UT	BK
		VJC2410-038	REAR PANEL		1	A,B,E,EN,G	BK
⚠	5	QMP7380-200	POWER CORD		1	U,UT	
⚠		QMP5530-008	POWER CORD		1	B	
⚠		QMP3900-200	POWER CORD		1	E,EN,G	
⚠		QMP2560-200	POWER CORD		1	A	
⚠		QMP1340-200	POWER CORD		1	J	
⚠		QMP1200-200	POWER CORD		1	C	
	6	QHS3771-108	CORD STOPPER		1		
	8	VKS5011-001	VOLTAGE CONTACT		1	U,UT	
	9	SBSF3008M	SCREW	VOLTAGE SELECT	2	U,UT	
	10	SBSF3008M	SCREW	FOR HEAT SINK	2		
	11	SBSF3008M	SCREW	FOR PIN JACK	1		
	12	SBSF3008M	SCREW	FOR DCS JACK	1		
	13	SBST3006M	SCREW	FOR REAR+CHASSI	3		
	14	GBST3006Z	SCREW	FOR MAIN P.C.BO	4		
	15	VKY4628-002	PACK SPRING		2		
⚠	16	QMF51E2-R80SBS	FUSE	FOR F901,F902	2	G,U,UT	
⚠		QMF51E2-R80SBS	FUSE	FOR F901,F902	2	A,E,EN	
⚠		QMF51E2-R80SBS	FUSE	FOR F901,F902	2	B	
⚠	17	QMF51A2-R315	FUSE	FOR F903	1	U,UT	
	18	VND4003-074	FUSE LABEL	FOR F903	1	U,UT	
	19	VMA4596-001	SHIELD CASE		1		
	20	VJG1205-015UL	FRONT PANEL		1	C,J	TN
		VJG1205-016	FRONT PANEL		1	G,U,UT	BK
		VJG1205-016	FRONT PANEL		1	A,B,E,EN	BK
	21	VJD4024-001	REFLECTION PLAT		2		
	22	SBSF3014Z	SCREW	FOR MECHANISM	4		
	23	SBST3006M	SCREW	FOR FRONT PANEL	3		
	24	SBSF2608Z	SCREW	FOR FL BOARD	8		
	25	VXP5178-003	PUSH BUTTON	FOR POWER	1		TN
		VXP5178-004	PUSH BUTTON	FOR POWER	1		BK
	27	VXP3559-004	MECHA BUTTON	A PLAY/STOP	1		BK
		VXP3559-003	MECHA BUTTON	A PLAY/STOP	1		TN
	28	VXP3560-003	MECHA BUTTON	B PLAY/STOP	1		TN
		VXP3560-004	MECHA BUTTON	B PLAY/STOP	1		BK
	29	VXP3561-004	MECHA BUTTON	A DIRECTION	1		BK
		VXP3561-003	MECHA BUTTON	A DIRECTION	1		TN
	30	VXP3562-001	MECHA BUTTON	B REC/PAUSE	1		TN
		VXP3562-002	MECHA BUTTON	B REC/PAUSE	1		BK
	31	VXP3563-002	MECHA BUTTON	DUBBING	1		BK
		VXP3563-001	MECHA BUTTON	DUBBING	1		TN
	32	VXS4394-001	SLIDE KNOB	REV.MODE	1		TN
		VXS4394-002	SLIDE KNOB	REV.MODE	1		BK
	33	VKL7265-003	JACK BRACKET	FOR H.P.JACK	1		
	35	VKL6752-001	SNAP PLATE	FOR H.P.JACK	1		
	37	VXL4425-001	KNOB	FOR DOLBY NR	1		TN
		VXL4425-002	KNOB	FOR DOLBY NR	1		BK
	39	VYH7779-00B	DUMPER ASS'Y		2		

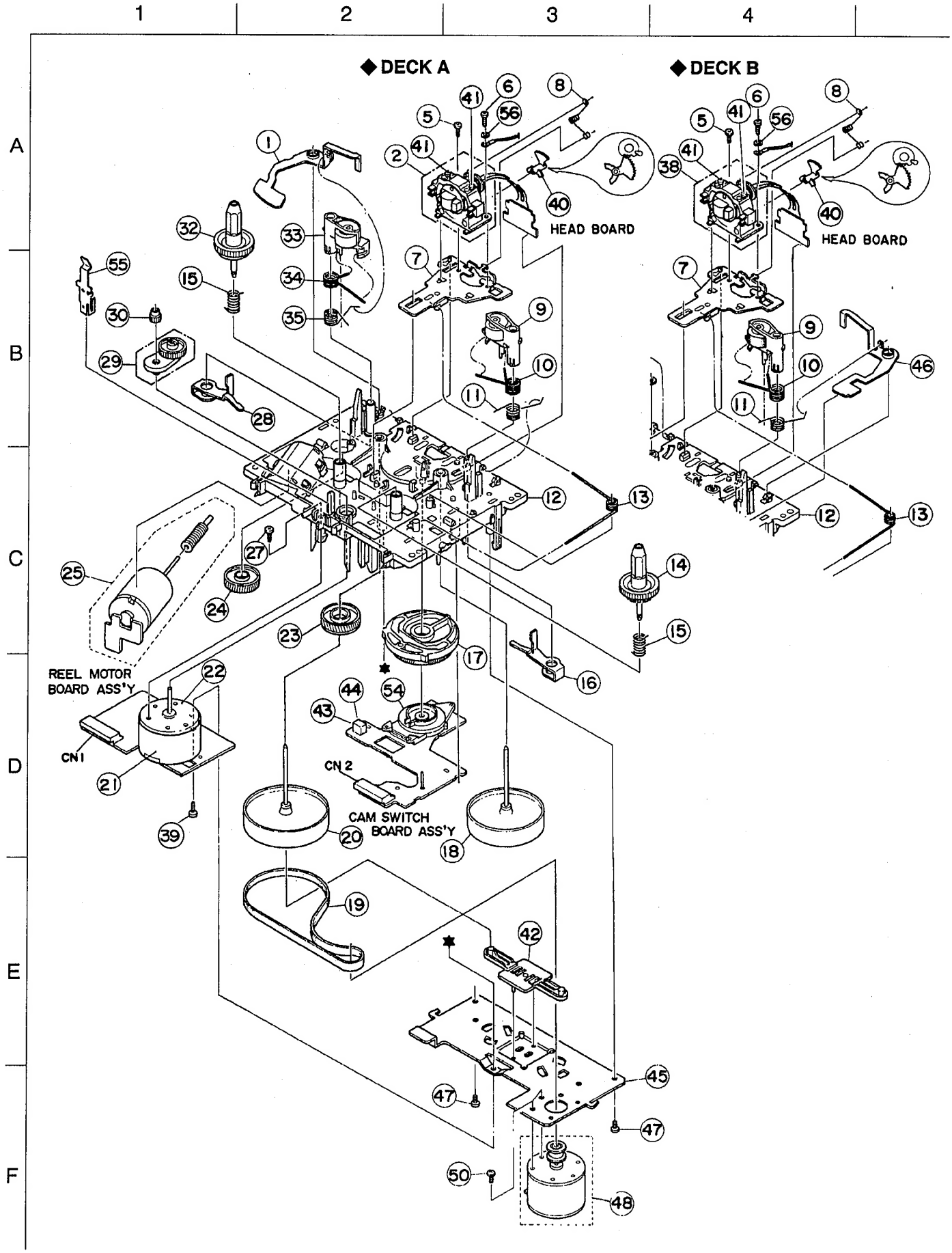
BLOCK NO. M1MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	40	VKW3006-228	TORSION SPRING	A-HOLDER	1		
	41	VKW3006-229	TORSION SPRING	B-HOLDER	1		
	42	VYH2275-001	MECHA HOLDER	A MECHANISM	1		
	43	VYH2275-101	MECHA HOLDER	B MECHANISM	1		
	44	SBSF2608Z	SCREW	FOR MECHANISM B	4		
	45	SBSF2608Z	SCREW	FOR A B PWB	2		
	46	VJT2317-003	CASSETTE HOLDER	FOR A MECHANISM	1		
	47	VJT2317-004	CASSETTE HOLDER	FOR B MECHANISM	1		
	48	VKY4180-001	CASSETTE SPRING		4		
	49	VJD3867-001	C.STABILIZER		2		
	50	VYTS491-001	PAD		4		
	51	VKY4635-002	SPRING PLATE		2		
	52	SBSF2608Z	SCREW	FOR SPRING PLAT	2		
	53	VKM3476-001	LOCK LEVER (R)	FOR A-MECHANISM	1		
	54	VKM3475-002	LOCK LEVER (L)	FOR B-MECHANISM	1		
	55	VYSS1R2-042	SPACER	LOCK LEVER	2		
	56	VKW3006-217	TORSHION SPRING		2		
	57	VYH7424-002	LOCK PLATE		2		
	58	VJD5429-001	JVC MARK	FOR C.LID	1		
	59	VJT2318-013	CASSETTE LID	FOR A MECHANISM	1		TN
		VJT2318-014	CASSETTE LID	FOR A MECHANISM	1		BK
	60	VJT2318-004	CASSETTE LID	FOR B MECHANISM	1		BK
		VJT2318-002	CASSETTE LID	FOR B MECHANISM	1		TN
	61	VXP5179-001	PUSH BUTTON	FOR EJECT	2		TN
		VXP5179-002	PUSH BUTTON	FOR EJECT	2		BK
	62	VKW3001-077	C.SPRING		2		
	63	VKL7262-002	REMOTE ARM	FOR A MECHANISM	1		
	64	VKL7263-002	REMOTE ARM	FOR B MECHANISM	1		
	65	VYH7773-001	BUTTON HOLDER		2		
	66	SBSF2608Z	SCREW	FOR BUTTON HOLD	2		
	67	VJF4039-00E	FOOT ASS'Y		4		TN
		E406379-008SS	FOOT ASS'Y		4		BK
	68	SBST3008Z	SCREW	FOR FOOT	4		
	69	VXL3023-002	KNOB	FOR INPUT VOLUM	1		BK
		VXL3023-001	KNOB	FOR INPUT VOLUM	1		TN
	70	VJK3607-001	FINDER		1		TN
		VJK3607-002	FINDER		1		BK
	71	VJC1964-001	TOP COVER		1		TN
		VJC1964-202	TOP COVER		1		BK
	72	VKZ4814-001	SPECIAL SCREW	FOR TOP COVER S	4		
	73	SBST3006M	SCREW	FOR TOP COVER R	2		
	74	VYN2335-M008PA	NAME PLATE		1	G	
		VYN2335-M003PA	NAME PLATE		1	A	
		VYN2335-M002PA	NAME PLATE		1	B	
		VYN2334-M004PA	NAME PLATE		1	C	
		VYN2334-M006PA	NAME PLATE		1	J	
		VYN2335-M005PA	NAME PLATE		1	E,EN	
		VYN2335-M007PA	NAME PLATE		1	U,UT	
	75	VND4205-004	CAUTION LABEL	C.R.L. CAUTION	1	B	
	77	T44362-001	CSA LABEL		1	C	
	78	E407097-001	HYATT L.LABEL		1	J	
	79	V04062-001	CONTI.PLUG		1	U,UT	
	81	VMA4587-001	SHIELD PLATE	FOR INPUT VOL	1		
	82	VMA4142-001	SHIELD PLATE(B)		1		

BLOCK NO. M1MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	84	VMZ0015-005	POST PIN	FOR HEAD WIRE	2		
	85	VYH3671-003	FL HOLDER		1		
	86	VKW5091-001	EARTH SPRING		2		
	87	VMH4011-201	HEAT SINK		1		
	88	DPSP3008Z	SCREW	Q901,903,909	3		
	89	VND4999-001	FCC LABEL (3)		1	J	
	90	VYSA1R4-050	SPACER		1		
	91	QHX5080-001	WIRE CLAMP		2		
	92	VYN2334-010	NAME PLATE		1		UT
	93	VND4992-001	ORIGN LABEL		1		UT

9 Exploded View of Mechanism Component parts

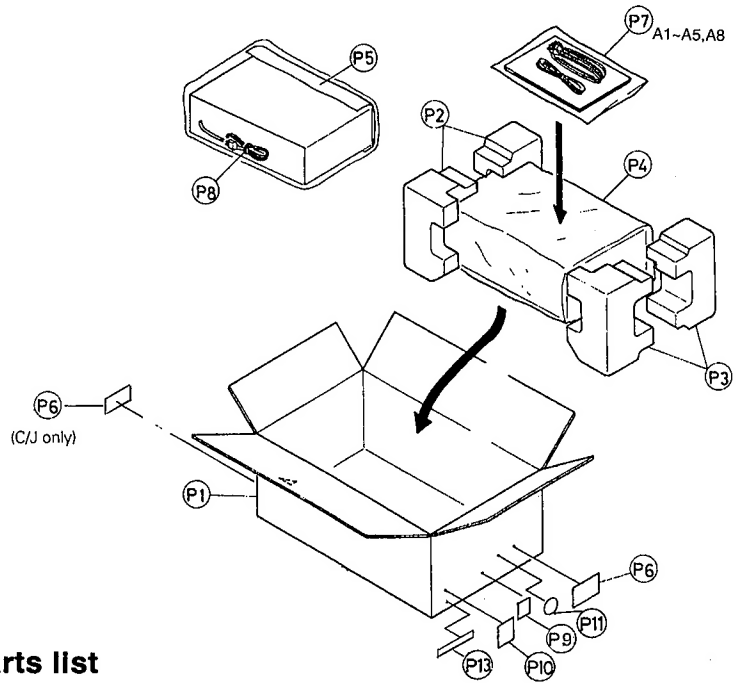


● Mechanism component parts List

BLOCK NO. M2MM□□□

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	1	VKL6954-007	EJECT SAFETY(R)	DECK A	1		
	2	VKS3550-#0D	HEAD MOUNT ASY	VDG5149-002MA1	1		
	5	SDST2004Z	SCREW	HEAD M.BASE	1		
	6	SDST2005Z	SCREW		1		
	7	VKL6942-00E	HEAD BASE ASSY		1		
	8	VKW4994-001	HEAD SPRING	FOR HEAD GEAR	1		
	9	VKP4221-00C	PINCH R.(L)ASSY		1		
	10	VKW4982-001	SPRING (L)	FOR PINCH ROLLE	1		
	11	VKW4933-005	TORSION SPRING	FOR RETURN (L)	1		
	12	VKS1112-#0I	CHASSIS B ASS'Y		1		
	13	VKW4930-002	RETURN SPRING	FOR HEAD BASE	1		
	14	VKS3480-004	REEL DISK		1		
	15	VKW4928-003	B.T. SPRING		1		
		VKW4928-003	B.T. SPRING		1		
	16	VKL6940-002	PINCH LEVER (L)		1		
	17	VKS2209-006	CONTROL CAM		1		
	18	VKF3186-00B	FLYWHEEL(L)ASSY		1		
	19	VKB3001-049	BELT		1		
	20	VKF3184-00B	FLYWHEEL(R)ASSY		1		
	21	FE-ZMS514	SHIELD CORE		1		
	22	MMN-6F4RA38	D.C.MOTOR	FOR REEL MOTOR	1		
	23	VKS5331-003	ACT GEAR(6)		1		
	24	VKS5330-004	ACT. GEAR (5)	DECK A	1		
	25	MXN13FB12F-SA2	DC MOTOR ASS'Y	FOR ACTUATOR	1		
	27	SDSP2605Z	SCREW	FOR REEL MOTOR	1		
	28	VKL6939-002	PINCH LEVER (R)		1		
	29	VKS5325-00F	FR ARM ASS'Y		1		
	30	VKS5328-002	GEAR		1		
	32	VKS5321-00DS	T-UP REEL ASS'Y		1		
	33	VKP4219-00C	PINCH R.(R)ASSY		1		
	34	VKW4981-002	P.R.SPRING(R)	FOR PINCH ROLLE	1		
	35	VKW4932-005	P.R. ARM SPRING	FOR RETURN (R)	1		
	38	VKS3551-#0D	HEAD BLOCK	DECK B	1		
	39	SDSF2608Z	SCREW		1		
	40	VKS3485-002	HEAD GEAR (1)		1		
	41	VKZ4629-003	SPECIAL SCREW	FOR AZIMUTH	2		
	42	VKS5327-004	THRUST PLATE		1		
	43	VKS3487-002	IC HOLDER		1		
	44	DN6851A	HALL IC		1		
	45	VKM3416-004	FM BRACKET		1		
	46	VKS6943-007	EJECT SAFETY L	DECK B	1		
	47	SDSF2605Z	SCREW	FOR FM BKT	2		
	48	MMI6H2LWK-SA5	MOTOR ASS'Y	FOR CAPSTAN	1		
	50	SPSP2603Z	SCREW	FOR MOTOR	2		
	54	VKS3587-00A	CAM SWITCH UNIT		1		
	55	VKY4628-002	PACK SPRING		1		
	56	WNS2000N	WASHER		1		
	C 2	QCF11HP-223	C.CAPACITOR	FOR REEL	1		
	CN 1	VMC0249-R08N	CONNECTOR	FOR MOTOR	1		
	CN 2	VMC0249-R07N	SOCKET	FOR CAM/HALL IC	1		

10 Packing Illustration and packing parts list



● Packing parts list

BLOCK NO. M3MM□□□

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	P 1	VPC2335-M002	CARTON	TD-W316	1		BK
		VPC2334-M002	CARTON	TD-W315	1		TN
	P 2	VPH2456-201	CUSHION (L)		1		
	P 3	VPH2457-201	CUSHION (R)		1		
	P 4	E300196-031B	ENVELOPE	FOR SET	1		
	P 5	VPK3001-012	SHEET	FOR SET	1		
	P 6	TDW316BKG-LAB	COMPUTER LABEL		1	G	
		TDW316BKB-LAB	COMPUTER LABEL		1	B	
		TDW316BKEN-LAB	COMPUTER LABEL		1	EN	
		TDW315TNC-LAB	COMPUTER LABEL		2	C	
		TDW316BKU-LAB	COMPUTER LABEL		1	U	
		TDW316BKA-LAB	COMPUTER LABEL		1	A	
		TDW315TNJ-LAB	COMPUTER LABEL		2	J	
		TDW316BKUT-LAB	COMPUTER LABEL		1	UT	
		TDW316BKE-LAB	COMPUTER LABEL		1	E	
	P 7	VPE3005-007	POLY BAG	FOR INSTRUCTION	1		
	P 8	Q04141H	WIRE CLAMP	FOR POWER CORD	1		
	P 9	VND4909-001	VOLTAGE LABEL		1	U,UT	
	P 10	VYN2334-010	NAME PLATE		1	UT	
	P 11	QZLA001-011	MARK		1	E,EN,G	
	P 13	VND4992-001	ORIGN LABEL		1	UT	

● Accessories

BLOCK NO. M3MM□□□

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A 1	VMP0039-00D	PIN CORD		1		
	A 2	VNN2334-671M	INSTRUCTIONS		1	A,B,J	
		VNN2334-661M	INSTRUCTIONS		1	G,U,UT	
		VNN2334-271M	INSTRUCTIONS		1	EN	
		VNN2334-661M	INSTRUCTIONS		1	C,E,EN	
	A 3	BT-20025L	WARRANTY CARD		1	C	
		BT-20134	WARRANTY CARD		1	G	
		BT-20047F	WARRANTY CARD		1	J	
		BT-20066A	WARRANTY CARD		1	B	
		BT-56001-1	WARRANTY CARD		1	A	
		BT20060	WARRANTY CARD		1	B	
	A 4	BT-56002-1	SERVIS CENTER L		1	A	
		BT-20071B	SVC CENTER LIST		1	C	
		BT-20137	SERVICE NETWORK		1	J	
	A 5	BT-20044G	SAFETY INST.		1	J	
		E43486-340A	SAFETY I.SHEET		1		
	A 8	EWP805-001E	REMOTE WIRE		1		

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